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Reduce your CHANNELING WORRIES to about this size

. . . By Using BAKER WASH-DOWN WHIRLER EQUIPMENT

As experienced operators well know, one of the biggest bugaboos in cementing casing is the hazard of channeling . . . a factor which may necessitate a costly recement job. Experienced operators also know that Baker Cement Wash-Down Whirler Equipment reduces this costly hazard to a minimum by providing uniform distribution of cement at the critical point . . . the shoe and the shoe joint. (See illustration and accompanying details for reasons why.)

The efficiency of Baker Cement Wash-Down Whirler Equipment, which was introduced and developed by Baker engineers, has been demonstrated in thousands of successful cement jobs, and it is generally acknowledged today as being the most efficient type of cementing unit available.

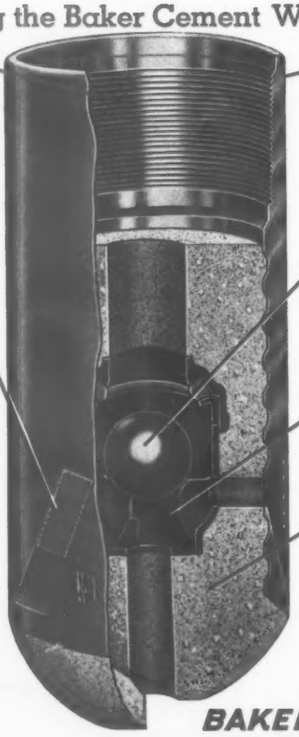
The Baker Whirler principle is available in two types of shoes . . . a Baker Cement Wash-Down Whirler Float Shoe and a Baker Cement Wash-Down Whirler Guide Shoe.

For detailed information, refer to Page 222 of the 1941 Composite Catalog, or get in touch with the nearest Baker office or field representative.

Here Are the Facts Concerning the Baker Cement Wash-Down Whirler Float Shoe:

1 THREADED CONNECTION FURNISHED TO FIT ANY TYPE OF CASING. Baker Floating Units can be furnished with threaded connection to fit the specifications of your casing. (Float collars can be furnished with both "female" and "male and female" threaded connections.) Manufacturing precision assures thread uniformity and accuracy.

5 BAFFLED WHIRLER PORTS. These whirler ports provide the important wash-down whirler action so advantageous in circulating and cementing operations. When the fluid strikes these baffled ports, a downward and then an upward whirling motion results. In running in, this whirling action provides a means of effectively washing away bridges. During cementing, the whirling action, imparted first to the fluid preceding the slurry and then to the slurry itself, properly prepares the hole to receive the cement. It then assures best possible distribution of a uniform body of cement around the shoe and the shoe joint, reducing the hazard of channeling to a minimum. Here is the ultimate in cementing efficiency.



2 AMPLE STRENGTH. The seamless steel casing shoe into which the concrete plug and Plastic BALL-TYPE Valve Assembly are securely anchored provides a unit that has the STRENGTH to float the longest and heaviest string of casing with an ample factor of SAFETY.

3 POSITIVE, LEAK-PROOF BACK-PRESSURE VALVE. The buoyant Plastic BALL-TYPE Back-Pressure Valve floats in the cement slurry or rotary mud and instantly forms a leak-proof double seal against a narrow, tough rubber ring (backed by Plastic and concrete) at the slightest reversal of pressure. Here is valve efficiency at its best.

4 AMPLE CIRCULATION AREAS. The correctly designed, streamlined Valve Assembly provides passageways ample for any circulating or cementing operation . . . a fact attested to by actual field performance under the most severe operating conditions.

6 DRILLABILITY. Complete and easy drillability results from the internal construction of Baker-Formula Concrete and Plastic . . . the Plastic BALL-TYPE Valve Assembly being set on end in the concrete plug to present a minimum cross-sectional area to the drilling bit. The concrete and the Plastic are quickly and easily drilled up and circulated out of the hole.

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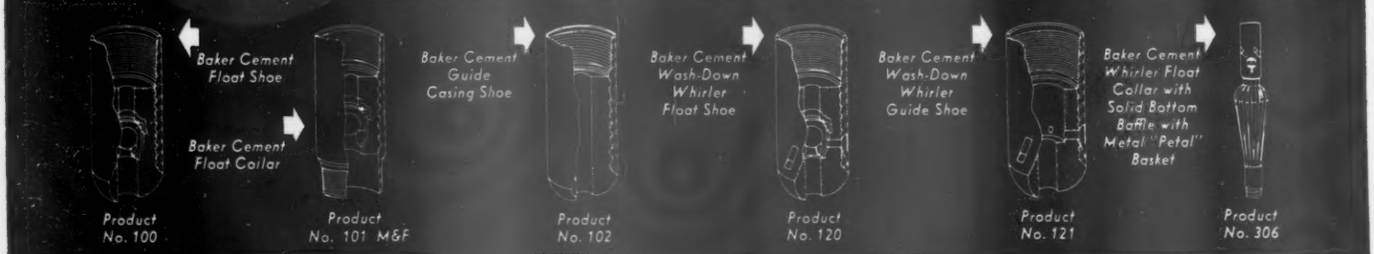
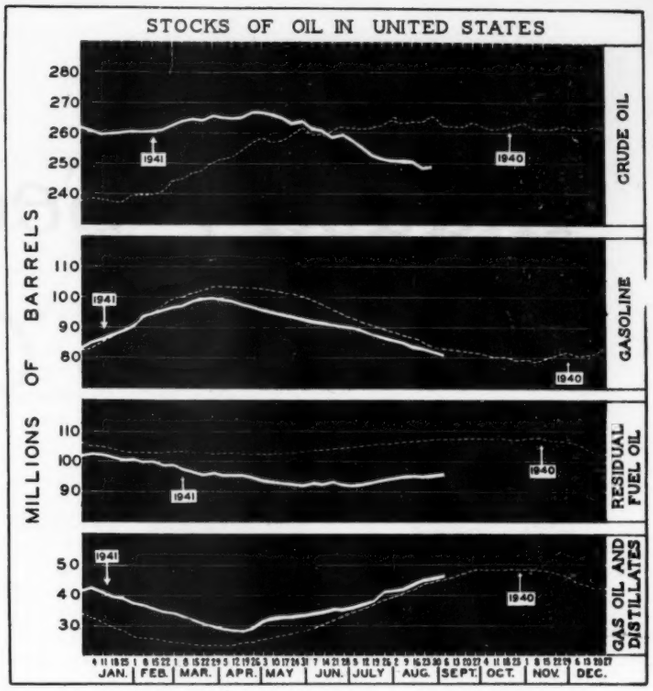
6023 Navigation Boulevard — P. O. Box 3048, Houston, Texas
EXPORT SALES OFFICE: 19 Rector Street, New York, N. Y.


Baker Cement Float Shoe
Baker Cement Float Collar
Product No. 100
Product No. 101 M&F
Baker Cement Guide Casing Shoe
Product No. 102
Baker Cement Wash-Down Whirler Float Shoe
Product No. 120
Baker Cement Wash-Down Whirler Guide Shoe
Product No. 121
Baker Cement Whirler Float Collar with Solid Bottom Baffle with Metal "Petal" Basket
Product No. 306

Trends

Proposed Changes In Transportation Mean Higher Costs



AS additional details of the petroleum industry's transportation situation are revealed at Senate committee hearings and elsewhere, market students are becoming concerned as to how many operators will offset the higher costs that appear to be assured in the movement of crude oil and refinery products this fall and winter. While some of the testimony has been conflicting the information presented at the special Senate committee hearings over the past 3 weeks has revealed that the large shortage in eastern oil supplies predicted last month will not materialize provided full use is made of all of the available transportation facilities. The threat to the industry lies in the fact that the additional transportation in most cases involves substantially higher costs which will not be uniform as to companies, products or areas.

CRUDE PRODUCTION *3,794,905 bbl. daily average—down 195,365 bbl. One year ago 3,617,414 bbl.*

CRUDE STOCKS *249,413,000 bbl. as of August 30—up 503,000 bbl. One year ago 265,865,000 bbl.*

GASOLINE STOCKS **81,571,000 bbl. as of September 6—down 101,000 bbl. One year ago 83,402,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *95,125,000 bbl. as of September 6—up 73,000 bbl. One year ago 107,267,000 bbl.*

GAS OIL AND DISTILLATES *46,127,000 bbl. as of September 6—up 776,000 bbl. One year ago 45,672,000 bbl.*

REFINERY RUNS *3,995,000 bbl. daily week ended September 6 — down 75,000 bbl. One year ago 3,500,000 bbl.*

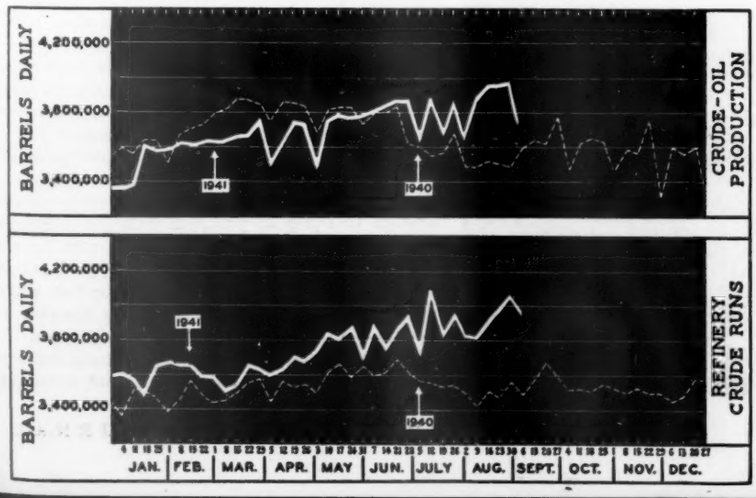
*Includes 7,184,000 bbl. aviation motor fuel. One year ago 5,820,000 bbl.

Petroleum economists point out that the present market structure for crude oil and products to a large extent is based on normal conditions in the industry which, due to the transportation upheaval, no longer exist. Price relationships for gasoline at Atlantic seaboard points are the same as when practically all the crude oil and refinery products were obtained by tanker from the Gulf Coast and foreign sources at a transportation expenditure of approximately one-half cent per gallon. Tanker-transportation rates have increased at least 1 cent per gallon and now substantial quantities of crude oil and products are moving to eastern cities at higher tariffs by pipe line or tank car or a combination of the two. Cases are cited in which eastern refineries are receiving crude supplies by tanker, pipe line and tank car. The transportation charges vary from around 55 cents per barrel in the case of the tankers to more than a dollar per barrel for Mid-Continent crude delivered to the plants in combination pipe line and tank-car hauls. It is now proposed to move large quantities of crude oil and refinery products the entire distance between southwestern fields and refineries to eastern centers by tank cars. Even with the low rail rates that are proposed, costs on these shipments will range from $1.05 to $2 per barrel.

A few companies have been absorbing the higher transportation charges without attempting to pass them on to their customers. It is agreed that this practice cannot continue indefinitely with shipments at the highest rates increasing. Specifically, refiners and marketers want assurance from the price administration at Washington that if they agree to use transportation media at costs which are two to five times the normal charges, they will be permitted to pass on these extra costs to their customers. The solution of this problem will not be easy.

DAILY AVERAGE PRODUCTION FOR WEEK

	Sept. 6, 1941	Bur. Mines Sept. est. of demand	Sept. state allowables	Aug. 30, 1941
Arkansas	75,120	79,000	76,000	74,400
California	634,725	634,700	610,000	629,250
Eastern fields	111,400	121,200		111,400
Illinois	401,450	392,500		386,700
Kansas	229,400	239,800	248,800	254,300
Louisiana	333,850	324,000	328,650	332,950
North Louisiana	*78,450*			*78,950*
Louisiana Gulf Coast	*255,400*			*254,000*
Michigan	49,860	39,500		42,050
Mississippi	53,445	33,000		47,800
Nebraska	6,950	5,000		7,000
New Mexico	113,840	113,200	113,200	114,100
Oklahoma	427,975	489,800	428,000	430,720
Rocky Mountain states	103,940	109,700		110,300
Texas	1,252,950	1,378,600		1,449,300
East Texas	*298,550*			*369,550*
West Texas	*226,250*			*274,350*
North Central Texas	*131,600*			*131,300*
East Central Texas	*80,650*			*84,950*
Texas Panhandle	*85,300*			*80,300*
Texas Gulf Coast	*348,800*			*412,250*
Southwest Texas	*81,800*			*96,600*
Total United States	3,794,905	3,960,000		3,990,270
Total production, Jan. 1-Sept. 6		922,827,445 bbl.		
Same period last year		926,554,693 bbl.		



Industry Seeks Steel Rating In Ratio to Oil's Importance

By H. STANLEY NORMAN

PLANS to secure a high position for the oil business in the allocation of steel to nondefense industries were being pushed this week with all possible vigor. The oil industry has determined that its continued ability to meet demand for petroleum by defense and civilian consumers rests largely on its ranking in the broad general category of nondefense industries. This conclusion is based on the changed outlook since Government assumed full priority control over steel, effective September 1, and on the nature of plans now evolving for distribution of steel on a scale materially below normal.

To support contentions that the oil industry requires specific quantities of steel to conduct its operations, manufacturers of equipment for all branches of the business have been canvassed through a questionnaire. Survey of the oil industry's equipment needs, projected for a period of 4 months, is the basis upon which the business must rest its appeal for allotment of sufficient steel to carry on operations.

Discussions have circulated among oil companies and the manufacturers of equipment that a reduction of possibly 30 per cent in steel consumption by the petroleum industry during 1942 will be sought by OPM and the more recently appointed super board, SPAB.

Results of the survey, consisting of answers to the questionnaire, will not be available until the latter part of this week. Replies from the individual companies were to have been placed in hands of an independent auditing firm in Houston, Tex., by September 8. Declarations of needs for the last 4 months of this year are being consolidated and totaled, after which the composite result will be transmitted to Robert E. Allen, director of production in the Office of the Petroleum Coordinator, who in turn will present the industry's case to OPM's director of priorities and the SPAB.

Replies to the questionnaire on requirements for the last 4 months of this year may lay the predicate for steel allotments to the petroleum-equipment manufacturers during the first few months of next year and in this light alone the results may exert important influence on 1942 operations. Primarily, however, questionnaire replies are intended to aid in solving the immediate problems of equipment suppliers and this naturally implies a broad potential effect on the producing, transportation, refining and marketing phases of the industry.

These four key men in the Petroleum Coordinator's office are the industry's contact with OPM's priorities division. Robert E. Allen, top, director of production; Wright W. Gary, center left, director of refining; H. A. Gilbert, below left, director of transportation and Dr. John W. Frey, director of marketing

Shortages Demand Action

The pinch of material shortages is just now reaching a stage in the petroleum industry requiring concentrated action. Acute shortages are still largely in the future, although a few materials containing one or more of the strategic metals have been unavailable without a priority rating for several months. Copper tubing for heat-exchanger tubes in refineries and natural-gasoline plants has been one of the most inaccessible materials required by these phases of operations. Alloy steels containing nickel have been scarce and will so continue for duration of the war, or until capacity for mining and refining this strategic metal are expanded beyond requirements of defense equipment.

The number of operators complaining about inability to procure tubular goods is growing almost daily, although instances of complete shutdowns for this cause alone are few.

The current position of oil-field-equipment stocks frequently forces delays and procurement through inconvenient channels. A case in point is that of a distributor who found his normal source of supply for pumping units unable to make delivery on an order because a certain type of bearing was unobtainable. The distributor assumed the initiative in locating bearings to fit the pumping units which were in the hands of his normal source of supply and otherwise ready for shipment. He was able to locate 50 bearings, enough to equip 25 pumping units, at scattered points in the Mid-Continent. Consequently, by going the more circuitous route and dipping into a phase of procurement previously handled without delay by the manufacturer, the distributor was able to meet a part of his requirements.

Control of steel distribution stems from the producers of ingots and billets and other forms of

PRIORITIES:

Answers to a few of the most pertinent questions asked about procurement of petroleum equipment

QUESTION: Has appointment of the new Supply Priorities and Allocations Board made any significant change in the availability of materials essential to the oil industry's operations?—J. C. W.

ANSWER: Only in so far as the oil industry will be allocated a specific volume of steel and other raw materials in the broad execution of SPAB duties. The new super board is charged with responsibility for speeding the flow of materials to both defense and nondefense industries. Although vital and essential to defense, the petroleum industry remains in the classification of producers of civilian goods.

QUESTION: What is the specific procedure in making application for a priority rating on equipment not now available through the normal sources of supply?—D. S. H.

ANSWER: Form PD-1 should be filled in and filed with the Petroleum Coordinator's Office, Department of the Interior Building, Washington, D. C. Equipment covered in the application and the branch of the industry for which the supplies are requested determine which of several individuals will handle the inquiry from that point on through approval or rejection by the Priorities Division of OPM.

QUESTION: On the basis of present information, what equipment needs appear likely to receive first consideration?—M. L. N.

ANSWER: Supplies for the manufacture of essential defense products such as aviation gasoline, toluene and lubricants for planes, tanks and defense factories are most likely to receive preferential treatment. This involves production of defense petroleum products for distribution to the United States forces and to commitments under terms of the lend-lease bill. Next consideration appears likely for maintenance and repair equipment for continuation of present record-high production, refining and distribution operations. Equipment for exploratory operations seems likely to receive consideration ahead of supplies for routine development, particularly since Ralph K. Davies, deputy petroleum coordinator, has called for continuation and preferably an expansion in wildcat-drilling activity.

A SPECIAL SERVICE

A special service for operators in all branches of the petroleum and natural-gas industries and manufacturers and suppliers of materials and equipment is inaugurated in this issue of The Oil and Gas Journal.

The objective is to aid operators and suppliers in answering the many questions arising from the priority control of materials vital to the industry's life and welfare. Questions will be answered on the basis of rulings from the various bureaus in Washington. Representative of the Office of Petroleum Coordinator for National Defense and other agencies dealing with priority control have pledged full cooperation in framing replies to questions from the industry.

All questions on the procurement of materials should be fully stated and addressed to The Oil and Gas Journal, Priorities Question Department, P. O. Box 1260, Tulsa.

The feature will continue each week as long as the interest manifested by readers justifies the service.

QUESTION: What steps are being taken to supply emergency equipment needs of individuals and companies whose operating positions and policies have never included warehousing?—V. W. H.

ANSWER: Supply companies are exercising a certain amount of arbitrary control over distribution of equipment. Diversion of shipments from customers ordering against future requirements to operators whose needs are of an emergency nature has been practiced extensively and has cushioned the pinch of shortages.

QUESTION: Do stocks of used equipment offer a solution to shortages?—C. W. O.

ANSWER: Dealers in used equipment, particularly in tubular goods in the Mid-Continent, are operating on a hand-to-mouth basis. Even materials that do not meet modern standards in all respects are now saleable. Most supply companies that did not previously operate used departments have established a division for this phase of business. Equipment-exchange departments have been created and expanded by supply companies as a service to customers.

QUESTION: What procedure has been the most successful in obtaining materials in which there is a shortage?—W. H. V.

ANSWER: Investigation of all possible supply sources has been reported effective in several instances. This means that consumers must, under present conditions, comb the equipment market where one or a few sources of supply were previously sufficient to satisfy individual requirements.

QUESTION: Is the inability of supply companies to state definitely what they can or cannot do with relation to delivering oil-field equipment a reflection on their business planning?—W. B. V.

ANSWER: No. Indecisiveness arises from inability of steel producers to determine from one day to the next how much material will be left over after accommodating all orders with a priority rating. The constant stream of new orders involving obligation to fill ahead of nondefense shipments changes the operating schedules almost every 24 hours.

raw steel. Producers are required to show that consumers to whom shipments are made qualify for such receipts under terms of priority regulations. This procedure is required in order that the producer may replace stocks of steel shipped with raw material for manufacture of an equivalent amount of finished goods. In turn, the manufacturer of steel products must obtain a similar form of clearance on distribution of finished goods in order that his supply of raw steel may be replaced.

At this stage, priority forms enter the picture of relations between oil operators and their sources of supplies whether it is direct with the producer of steel or with the manufacturer of finished equipment.

Latest headache for the supply companies and the oil operators is the so-called PD-73, which is a record required by OPM since September 1 on every order or contract placed with a producer for carbon and alloy-steel castings, ingots, blooms, slabs, billets, forgings and all other semifinished and finished rolled or drawn carbon and alloy steels, as covered in order M-21. There is no unanimity among producers and suppliers of petroleum equipment on interpretation of the form PD-73. Some construe the form as a requirement on each transaction in steel until it reaches the hands of the ultimate consumer. Others contend and are so framing their requirements that the PD-73 is necessary only on transactions between the actual producer and the fabricator. Still others accompany all steel orders with a statement on PD-73 until the material reaches the hands of distributors. The form lists the producer, customer, type of business, shipping date, a group classification, ultimate use for which material is intended, whether it is for stock and a product classification.

Contention is advanced that requirement of more than one PD-73 on the same steel would on each such transfer constitute a duplication of records on the amount of material going into hands of the industry.

There has been no essential change in the routine of applying for priority rating on materials needed in the oil industry as a result of the reorganization late last month in Washington, D. C. Creation of the Supply Priorities and Allocations Board gives Donald M. Nelson, executive director, in collaboration with the seven-man board, the task of determining how much materials and supplies will go into specific uses. If, and these figures are an arbitrary assumption for the purpose of illustration, the oil industry is allocated 70 per cent of the steel it used in the first 6 months of 1941 with which to conduct its future operations, it will be up to OPC and the Priorities Division of OPM to decide the order of distribution.

Consequently, Coordinator Ickes' office continues, for the present, as the clearing house through which applications for equipment should be made if the material is unavailable through normal and special channels of supply distribution. Applications for priority rating on oil equipment placed through the coordinator's office should be made on form PD-1.

Mr. Allen, who held a questions-and-answers

This Week...

Three United States tankers have discharged cargoes of domestic aviation gasoline at Vladivostok, U.S.S.R. Japan's protests were denied. Tension in the Pacific has eased. Passage of the oil cargoes was considered the test.

●

Rate reductions of 25 per cent on petroleum products and up to 50 per cent on crude oil are being instituted by railroads. Chief objective is to forestall the Texas to East Coast pipe line.

●

Deputy Coordinator Davies, in his second appearance before the Maloney committee, declared the East Coast petroleum shortage is real and not imaginary.

●

Extensions to the Agua Dulce-Stratton field, Nueces County, and the Ellenburger structure in Crane County, Texas, prove substantial additions to reserves.

●

Man of the week: Dr. Thomas Midgley, Jr., recipient of the coveted American Chemical Society's Priestly Medal, so exclusive that it is awarded only at 3-year intervals.

●

A Senate committee witness let it slip that 80 United States tankers have gone into British service. No end of transfers is yet promised.

●

Leon Henderson, price administrator, joined proponents of the national-defense crude pipe line. "You can't sink a pipe line," he told Senate investigators.

●

Oil companies' efforts to locate the 20,000 tank cars railroad spokesmen claim are now idle have proven only partly successful.

●

First meeting of the renewed interstate oil compact group will be held the middle of next month at Dallas or Fort Worth, Tex. Governors Phillips of Oklahoma and Stevenson of Texas discussed addition of a petroleum engineer to the staff. Texas has $25,000 to spend on the compact.

●

Eastern fuel consumers may look askance at the fears of politicians and railroad interests that the 24-in. national-defense line would be converted to transporting cheaper gas.

●

OPA has authorized 0.5 cent increase in the Gulf Coast gasoline-price ceiling. Refiners, still dissatisfied, continue effort to throw off all price control. Claim restrictions are inimical to industry's freedom in dealing with operating costs.

●

Refusal of the SPAB to allot steel plates for the national-defense pipe line ends the possibility that this 1,586-mile carrier will be available before spring. Later, use of seamless tubing may be authorized.

●

Oil shippers are willing to receive convincing proof that railroads can fulfill their transportation claims. Rails, assertedly, could deliver 200,000 bbl. daily to the East Coast using equipment not now in regular service.

●

Equipment priority is operating problem No. 1 for the industry. Estimated requirements for remainder of this year are being tabulated this week. Results will go to Washington and form the nucleus for preference rating.

Acme

This picture of idle tank cars was shown to the Senate committee investigating East Coast petroleum shortages as symbolic of equipment available, railroad spokesmen say, for moving up to 200,000 bbl. daily from Texas to Philadelphia, Pa., and New York

clinic on priorities with oil and supply-company representatives in Fort Worth, Tex., August 28, has promised expeditious treatment of all requests for equipment. Previous to the order giving the Priorities Division of OPM and the SPAB control over distribution of all steel the supply companies were in position to exercise greater discretion in the disbursement of oil-field equipment. The drain on steel by domestic defense industries, the services and the lend-lease operations started exercising a pinch on oil-field equipment 3 months ago and even longer in the case of a few alloy and copper items. Still, most of the inconveniences up to now have been delays in filling orders.

Orders for casing as a general rule now have slight prospect of being filled until February. There are enough exceptions, however, to make the general rule rather flexible. Instances have been reported of unqualified refusal of pipe mills to accept any new orders one day and within 24 hours learning that part or all the tonnage for which inquiry had been made could, after all, be shipped with relatively slight delay. Uncertainties regarding pipe are typical of the confusion that permeates the entire equipment-supply end of the oil industry. Inability of the supply companies to say specifically what they can do on equipment orders confuses operators and prevents more than short-term projection of development programs.

Used Equipment Cushions Pinch

Used equipment has helped cushion the depressing effect of supply shortages but limits are about reached in this direction. Substandard used casing that has rested in yards for years awaiting a demand is now going into wells. Weight, size, age, previous runs and other such standards by which used pipe was judged are now in minor consideration. One supply company reported last week that its yard of used equipment had been completely liquidated.

A dealer in used equipment in West Texas reported that operators abandoning wells and having used pipe to sell think nothing of asking new-casing prices for salvaged material. Dealers are receiving new-pipe prices in most instances because of the immediate availability of such material.

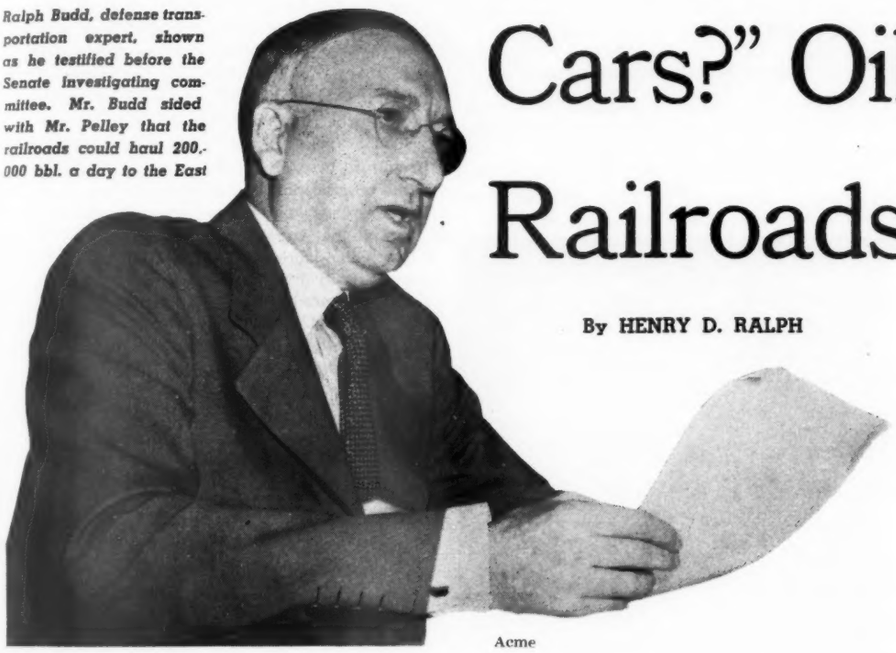
Scores of small companies, independent operators and even a few of the larger companies have never practiced extensive warehousing and are, therefore, dependent on supply-company stocks and prompt mill shipments to meet their equipment needs as they arise. On the other hand, some companies fortified their operating positions as far ahead as possible and have on hand sufficient supplies to conduct normal drilling and producing programs for a few weeks to several months.

Supply companies have exercised a certain amount of arbitrary proration in disbursement of supplies during recent weeks and indications are that this policy will continue so long as shortages exist in equipment. Companies scheduled to receive shipments against requirements several weeks in the future are being deferred when an acute need arises in the operations of another customer. This exercise of arbitrary jurisdiction over supply shipments involves an obligation on the part of equipment distributors to make certain that "Peter isn't being robbed to pay Paul," suppliers declare.

Another development in distribution and utilization of equipment forced on the petroleum industry by metal shortages is simplification of

(Continued on Page 93)

"Where Are Those 20,000 Tank Cars?" Oil Men Ask Railroads' Pelley



Ralph Budd, defense transportation expert, shown as he testified before the Senate investigating committee. Mr. Budd sided with Mr. Pelley that the railroads could haul 200,000 bbl. a day to the East

Acme

By HENRY D. RALPH

WASHINGTON, D. C., Sept. 9.—The petroleum deficiency on the East Coast is an actual and not imaginary shortage, as has been charged, Deputy Petroleum Coordinator Ralph K. Davies warned the Maloney committee Tuesday.

Mr. Davies reminded the committee of the situation with respect to aluminum and steel, where both the Government and industry underestimated the nation's requirements "in this present unprecedented emergency situation," resulting in an almost disastrous waste of time in building up production capacities for these industries, and told the committee that "serious as were the steel and aluminum miscalculations, they do not approach the havoc and catastrophe which will overwhelm us immediately if we go wrong on oil."

The coordinator's office, Mr. Davies declared, has urged, "and urged strongly," that complete use be made of tank cars in order to leave no stone unturned to alleviate the East Coast shortage. However, he said, the uncertainties of this mode of transportation as a complete interim, temporary or permanent solution to the shortage problem must be taken into account.

"It is perfectly natural for railroad spokesmen to argue that they have all the capacity necessary to solve the transportation problem," he declared. "The building of additional tankers, barges, pipe lines or trucks may create potential competition for the rails at some indefinite future time. This the railroads fear, and no one can blame them for fearing it."

Preliminary report on the investigation of the alleged shortage of petroleum products on the eastern seaboard, undertaken by a special Senate committee headed by Sen. Francis Maloney, of Connecticut, will be made to the Senate when it convenes Thursday, Senator Maloney disclosed Monday.

The senator also revealed that it is his intention to dispense with further hearings for the present, although he will keep his committee intact and will call other witnesses if circumstances should justify further hearings. Previously, Senator Maloney had stated that it was his intention to keep the investigation going until he forced an admission that there is no shortage.

Sen. Sheridan Downey of California charged that Mr. Pelley had "seriously injured" the national-defense morale in stating that 20,000 railroad tank cars are available to more than take up the East Coast shortage.

California Shortage Acute

Senator Downey told the committee that the shortage of tank cars on the Pacific Coast has been acute for the past 60 days and is steadily growing. He read a number of telegrams and letters from oil companies in California requesting his aid in procuring tank cars for the movement of petroleum products for defense projects.

"So far as is known," the Californian declared, "there is not a surplus tank car on Pacific soil."

Senator Downey said that it is his understanding that even the Army is unable to obtain sufficient tank cars to meet its needs, and added that the railroads themselves were unable to get cars to transport their own fuel. The basic figures upon which Mr. Pelley relied for his estimate of 20,000 surplus cars, Senator Downey charged, are over a year old. In the intervening year since the Pelley survey, he said, petroleum consumption has been stepped up by about 11 per cent or approximately the capacity of between 15,000 and 20,000 tank cars.

"Of course these cars are elusive," he asserted. "That's because they are now in use. The truth is that we are actually using 15,000 to 20,000 more tank cars now than a year ago."

Senator Downey strongly recommended the immediate construction of the proposed 24-in. pipe line from East Texas to the New York and Philadelphia refining areas. He pointed out that this line has the full approval of both the Army and the Navy, and stated that it would be one of the greatest defensive weapons which we could have in the event of a "shooting war."

Russell E. Singer, general manager of the American Automobile Association, urged that the committee "enlist for the duration" and make periodic reports to Congress in order to keep the public fully informed as to the true situation with respect to the petroleum situation.

A request that the investigation be continued was also made by Leon Henderson, price administrator, in closing his testimony before the committee in order to keep the situation before the public. Mr. Henderson, however, insisted that there is a shortage now and a more serious shortage impends unless stocks are built up to much higher figures in order to meet the increased industrial activity required by the defense program.

Witnesses this week, in addition to Mr. Henderson, were J. J. Pelley, president of the Association of American Railroads; Ralph Budd, transportation commissioner of the National Defense Advisory Commission, and C. F. Dowd, chairman of the subcommittee on tank cars of the transportation committee for District 1.

Construction of additional oil lines is absolutely necessary to the national defense, regardless of whether tankers, tank cars or pipe lines get first priority in the immediate future, Price Administrator Leon Henderson told the Maloney committee.

"Pipe lines are hole cards particularly useful if this country should ever be subjected to attack," he declared. "In such event the tanker movement from the gulf to the eastern coast might require large and expensive convoy systems. Demands upon the railroad traffic due to curtailment of intercoastal shipping and other movements would be almost unbelievable. We cannot be too cautious in this emergency and you cannot sink a pipe line," he said.

Mr. Henderson's testimony followed questioning by Senator Burton of Ohio with respect to the possibility of using railroad transportation as a "stop gap" until additional tankers now under construction are completed and put into service.

Henderson Lauds Coordinator

Efforts of the Petroleum Coordinator's Office were lauded by Mr. Henderson who outlined steps taken which have made the shortage on the East Coast look less serious now than 2 or 3 months ago.

Mr. Henderson stated that in his opinion the price situation for petroleum products has been sufficiently favorable to encourage the movement of additional supplies by means of transportation more expensive than tankers, but added that his office will give favorable consideration to "justifiable" increases in price when large-scale movement of products takes place at materially higher costs.

"No one can justifiably claim," Mr. Henderson said, "that oil companies have been deterred from using higher cost transportation by consideration of price. They have been advised repeatedly that when they can show that they have incurred, or are incurring, definite increases in transportation expense a formula will be developed to equalize distribution of that expense as between the companies, and no resistance will be offered to justifiable increases in price. The expense of movement by tank cars or pipe line must in some way be averaged in with the cost of cheaper movement by tankers. This calls for cooperative action and I know that the petroleum coordinator is striving to bring about such cooperation."

Discussing the problem respecting basic prices in the East, Mr. Henderson said that tankers are involved, rather than tank cars. Actual weighted cost of transportation as a basis for price structures has been insisted upon by his office, he said. Figures given to government agencies, Mr. Henderson explained, indicate that most of the companies have a cost of about 0.5 cent per gallon for tanker transportation.

"The Maritime Commission recently promulgated a tanker-rate ceiling which works out to about 1.5 cents per gallon," he said. "We are having some difficulty in explaining to the companies that this means a maximum and not a minimum, or even a desirable rate. Indeed we expect to ask for a reexamination of this rate," he said.

Mr. Henderson stated that investigations carried out by his office have confirmed figures given the committee by Deputy Coordinator Davies that the estimated stocks on hand will be 44,800,000 bbl. of all products at the end of the year. This compares with a total of 72,000,000 bbl. of products on hand December 31, 1940. At the end of the year, he said, it would seem possible to supply all gasoline and heating-oil demands, but not to meet all demands for industrial fuel oil unless preferences are given to this product in refining or transportation, or unless action is taken to relieve the shortage.

Fuel Deficiency Predicted

Questioned by Senator Maloney as to whether he was taking into account estimates of surplus tank cars which might be used to alleviate the shortage, which had been presented earlier to the committee by Mr. Budd and Mr. Pelley, Mr. Henderson said that he had, but added that if the present proportion of products reaching the East Coast continued, there might be ample supplies of gasoline but still be a shortage in fuel oils. Both civil and military defense needs are facing a shortage, Mr. Henderson said, if only the estimated 44,800,000 bbl. are on hand on December 31.

He explained that the rate of growth of industrial activity is so great that even if 72,000,000 bbl. were on hand, as was the case last year, we would be "scraping at the line to assume that we won't have difficulty." In response to questioning by Senator Maloney as to the future use of the proposed 24-in. pipe line from the producing regions in Texas and Illinois to the East Coast, Mr. Henderson ventured the opinion that if the line were utilized to capacity, costs of operation "might get down pretty close and might even beat tanker rates."

C. F. Dowd, traffic manager of the Tide Water Associated Oil Co. of New York and chairman of the subcommittee on tank cars of the transportation committee for District 1, told the committee that following a conference with representatives of the railroads, a compromise rate schedule for rail transportation of petroleum has been worked out.

Previously, the Maloney committee heard testimony from Mr. Pelley and Mr. Budd, concerning the ability of the railroads to transport sufficient petroleum to eliminate the current shortage.

Mr. Pelley told the committee that sufficient facilities could be assembled within a week and any shortage of up to 200,000 bbl. of petroleum per day could be wiped out in 2 weeks.

Davies Awaits Performance

Discussing the figures presented to the committee by Mr. Pelley, Mr. Davies warned against accepting a "superficial" estimate.

"I will not quarrel with Mr. Pelley's statistics," he declared. "I see no practical purpose served

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C. F. Dowd, traffic manager, Tide Water Associated Oil Co., as he testified before the committee. Mr. Dowd cast doubt on the idea that tank cars could be a complete solution to the problem by questioning the accuracy of estimates of a surplus of 20,000 tank cars

by so doing. The oil coordinator's office takes the stand that whatever figures may be proved correct by actual performance with respect to what kind of tank cars are where, and how fast they can move oil from some place to some other place, the cars should all be used."

Mr. Davies estimated that through a "speedup" of all available transportation—tanker, tank car, pipe line and tank truck—additional petroleum could be moved to the East Coast which translated into tank-car capacity would amount to 10,000 cars.

However, he explained that this additional capacity had been figured into his calculations when he estimated that there was a shortage of approximately 175,000 bbl. daily on the Atlantic seaboard.

Mr. Pelley opposed granting of priorities on steel for the construction of pipe lines if that steel is to be supplied prior to steel for the construction of new railroad cars. He minimized the cost and difficulties of constructing facilities at eastern refineries for the unloading of railroad tank cars.

Mr. Budd agreed with Mr. Pelley's contention that it would be physically possible to transport 200,000 bbl. of petroleum a day to the East Coast through the utilization of tank cars. However, Mr. Budd said he found it difficult to raise objection to building more transportation facilities "especially anything so efficient as a pipe line." He stated that if a pipe line from Texas to the eastern seaboard were now in existence "it would be a great comfort."

Mr. Budd told the committee it was his understanding that the oil companies are receiving by tank cars 30,000 to 40,000 bbl. of petroleum per day at the present time. He explained, however, that these shipments are short hauls coming from the Mid-Continent. Pipe lines are being utilized for part of the distance and railroad transportation for the rest, he explained. This type of shift in traffic from normal channels will be extended in the future, Mr. Budd predicted, adding that if the possibilities of this extension are exhausted, the railroads will make longer hauls, possibly some all the way from Texas.

Immediate action to utilize all available railroad tank cars in order to increase the movement of petroleum products to the eastern seaboard was pledged by 11 major companies operating in that area following a day-long conference with Deputy Coordinator Davies.

Companies to Use Rails

After reviewing steps which have been taken to minimize the effect upon the industry and consuming public of the heavy withdrawal of tanker tonnage which has taken place, the representatives of the oil companies stated that they will continue to press into service all available tank cars as rapidly as they can be supplied by the tank-car companies and moved by the railroads, and within the physical limitations as to tracking, unloading facilities, storage and other problems which exist.

"In view of the emergency," the letter read, "we are preparing to vigorously prosecute this plan to the limit of the additional cars that are actually made available regardless of whether this proves to be 200,000 as you state is claimed by the railroads, or some other figure."

In an endeavor to move as rapidly as possible and pending the working out of more complete recommendation for equitable participation by the entire industry through the industry committee now functioning, these companies are prepared to do the following in addition to the many steps heretofore taken:

1. Each company will immediately ask for and utilize in petroleum transportation all the available railroad tank cars it can obtain to the extent that its storage, car loading, other facilities and requirements will permit until shortage conditions are terminated.

2. Each company will at once endeavor to increase its loading and unloading facilities to the extent necessary to utilize its full storage capacity.

3. The increased costs per barrel of petroleum products by tank-car transportation over the Maritime Commission charter-rate ceilings for tankers will be shared equitably by the signatory companies under a plan to be developed and recommended by the transportation committee of District 1 and approved by the petroleum coordinator.

The oil-company representatives recommended that the railroads contribute substantially to the increase in transportation costs resulting from the movement by rail and expressed the hope that reduced railroad rates will be promptly approved by the railroads, thus obviating the necessity for placing upon the buying public the following burden of this emergency expense.

The companies signing the pledge were as follows: Gulf Oil Corp., Standard Oil Co. of New Jersey, Texas Co., Atlantic Refining Co., Socony-Vacuum Oil Co., Tide Water Associated Oil Co., Cities Service Co., Consolidated Oil Co., Sun Oil Co., American Oil Co., and the Shell Oil Co.

OPC Indicates 80 Tankers Transferred to British

THE first real clue as to the number of tankers transferred to the British service appears to have been dropped, probably inadvertently, by the Office of Petroleum Coordinator.

According to this, the transfer works out as 80 tankers.

The actual number transferred is a closely guarded military secret, though it is the real answer to the question of whether or not there is an actual shortage of petroleum on the East Coast, and to whether or not there is justification for the elaborate plans for regulation of the entire oil industry by Coordinator Ickes.

The hint is contained in the letter of September 4 signed by 11 major oil companies outlining plans for using more railroad tank cars. In this letter, addressed to Deputy Coordinator Davies, the companies said:

"The transfer of tankers from usual operation on the Atlantic Coast we estimate decreased the tanker-carrying capacity for the area by about 400,000 bbl. daily."

The usual rough method of calculation is that an average tanker of 10,000 tons deadweight capacity will carry an average of 5,000 bbl. of petroleum per day between the Gulf Coast and North Atlantic ports, figuring about 100,000 bbl. per load and 18 to 20 days per round trip. Dividing this into the figure of 400,000 gives 80 tankers of 10,000 tons deadweight, or their equivalent in vessels of other sizes.

The only official information has been that this Government agreed to let the British have 50 tankers, but later it became known that the British had asked for 10 additional tankers per month for about 8 months. It has never been revealed how many tankers were actually transferred, or when, or how many more are slated to go. It is learned on good authority, however, that the first batch turned over actually numbered 48 tankers, but some of these were larger than the average so their carrying capacity was equal to 50 tankers of 10,000 tons each. Rumor has it that about 30 additional tankers have gone, which would make approximately 80 United States tankers now in British service.

The tank-car letter goes on to state that by various means the industry has been able to make up for all but 175,000 bbl. per day of the 400,000-bbl. shortage. This would indicate that the equivalent of about 35 average-sized tankers constitutes the present transportation shortage.

This checks with the understanding in the trade a few months ago that if no more than 50 tankers are lost the industry could make up the shortage one way or another without any need for rationing consumers or other drastic steps.

Testifying before the Maloney committee, Sen. Sheridan Downey read into the record a letter from Acting Coordinator Davies to Admiral Land, listing the 17 foreign tankers immobilized in South and Central American ports and explaining their condition.

Of the 17 tankers, Mr. Davies wrote, 7 are already in use between Mexican and United States ports, and of the remaining 10 vessels, only 3 are undamaged or in serviceable condition and 7 will require extensive repairs before they can again be placed in operation.

Of the five Italian, German and Danish tankers immobilized in United States ports, Mr. Davies wrote, the two Danish ships are already in operation and the three other tankers are undergoing repairs.

Mr. Davies said that his figures were taken from the report of the Maritime Commission relative to merchant vessels immobilized in other American republics, "as of May 21, 1941, with changes to June 5, 1941."

Mr. Davies said that he had been unable to identify the 26 tankers which the Maritime Commission chairman had testified were immobilized in Latin American ports and which he said could be made available within 2 months.

Chairman Maloney says he intends to keep the investigation going until he gets Secretary Ickes or Deputy Coordinator Davies to admit publicly that there is no shortage.

Another accomplishment of the investigation has been to spur action for the greater use of rail transportation of oil. The OPC has pointed out several times that it asked the oil industry on June 25, on August 18, and on August 23, to utilize railroad tank cars as fully as possible, but in spite of this very little was done in this respect. It was not until the Senate committee began asking questions about the number of available tank cars and what their use would do to the alleged shortage that any concerted action was taken. Then two meetings were hurriedly called for September 4 and overnight a plan was drafted and got under way. Mr. Davies met with representatives of 11 majors and reached an agreement to use tank cars and divide up the additional cost later, and the rail transportation committee of OPC's District 1 met with the railroads and agreed on lower freight rates.

NEXT WEEK

The Annual . . .

PIPE LINE

. . . Number

The Journal's annual issue devoted to the activities of pipelines will reflect the fact that that branch of the industry is in the midst of the most active period in its history. The number includes:

- **Specially prepared papers by the industry's leading operators and engineers.**
- **Practical suggestions for those in charge of the laying and the operation of lines.**
- **Articles dealing with economic developments.**
- **Complete personnel of companies operating crude-oil, natural gas and gasoline pipe-line systems.**
- **Staff articles covering the outstanding developments of the year.**

EXTRA—for mail subscribers. A 33 by 48-in., four-color map of the United States showing crude-oil and gasoline pipe-line systems. This is the petroleum industry's most complete map of pipe-line transportation.

Steel Refused for National-Defense Crude-Oil Line

WASHINGTON, D. C., Sept. 9.—The Supply Priorities and Allocations Board today refused to allot steel for the construction of a 1,586-mile crude-oil pipe line from Texas to New York though the line was urged by Petroleum Coordinator Ickes and oil companies have completed survey of the route. Because neither Coordinator Ickes nor Deputy Davies could be present, SPAB did not pass on merits of the line itself but decided it could not be built of pipe made from steel plates. Later SPAB will pass on the possibility of using seamless pipe; but, if this is permitted, it will specify that all tube mills must not be tied up on this project. Decision is not subject to review and today's ruling means the pipe line cannot be completed by spring, if it is built at all.

Shippers and Railroads Agree Upon Rate Reduction

DRASTIC reductions in the rail freight rates on crude and refined petroleum, ranging from 25 to 50 per cent, have been agreed upon by shippers and the Association of American Railroads.

New tariffs were filed with the Interstate Commerce Commission Monday, together with petitions for permission to file the tariffs in abbreviated form, to permit them to go into effect at once instead of waiting the customary 30 days, and to relieve the railroads of the necessity of adjusting intermediate rates to conform with the long-and-short-haul provision of the law. There is every expectation that the ICC will act favorably on these petitions without delay.

The new rates apply on shipments from crude-producing and refinery centers in the Southwest and also in Illinois and Ohio to destinations in District 1 of the Office of Petroleum Coordinator, namely all states touching the Atlantic Ocean plus Vermont and West Virginia.

On crude oil the new rates are 13 per cent of the first-class rates between the points concerned, and are thus computed on an actual mileage basis. In some cases this constitutes a reduction of as much as 50 per cent below previous rates for crude oil. Rates on gasoline and fuel and heating oils have been cut 25 per cent below previously published rates. The system of grouping destinations in a refining district for a single rate on refined products is maintained, but since the rates from all groups have been cut a flat 25 per cent, the differentials between groups have been changed somewhat. Specific rates on crude will be published only where there is a definite request for a movement of oil.

Typical examples are the following rates from various points to New York City, in cents per 100 lb.:

Product—	From	Old rate	New rate
Gasoline	Houston	84	63
Fuel oil	Houston	67	53
Gasoline	Tulsa	81	61
Fuel oil	Tulsa	65	49
Crude	Houston	67	49
Crude	Tulsa	65	41
Crude	Shreveport	65	43
Crude	Oklahoma City	65	43
Crude	Kilgore	67	45
Crude	Eola, La.	65	41

STATE CAPITALS...

TEXAS

STATE-WIDE PRORATION HEARING has been called at Austin September 18 at which testimony will be accepted from producers and purchasers for October operations.

DRILLING PERMITS for 242 wells were issued in the state for the week ended September 6, an increase of 55 over the preceding week, according to records of the Railroad Commission. Texas completions for the week totaled 155, a decline of 14.

West Texas, where operators in the Slaughter pool obtained 27 permits, led the development this week with 64 permits. Oil-well completions in West Texas totaled 55.

Forty-six permits went to Southwest Texas, 13 of them being in exception to Rule 37. This district's oil completions totaled 29.

Drilling in North Texas continued active with 39 permits and 28 oil completions.

West Central Texas operators received 27 permits and reported 6 oil completions.

In the Panhandle there were 25 locations and 16 oil completions.

The East Texas district saw issuance of six Rule 37 permits to operators in Hawkins and nine to those in the East Texas field. There were a total of 19 permits issued and 9 oil completions. A dozen exception requests were denied.

Five permits went to East Central Texas operators.

The Gulf Coast counted 17 permits and 12 oil completions.

PRODUCTION PRORATION schedules of the Railroad Commission contained 97,545 oil wells on September 6. Under the new proration schedule for September, every district except the Panhandle where only for 4 shutdown days apply, showed decreases in production ranging from 134 bbl. daily up to a reduction of 5,360 bbl. in the East Texas output.

Panhandle allowable gained 2,374 bbl. daily for a total of 81,161 bbl. The September estimated demand for Texas crude is 1,378,700 bbl. daily, a figure which is 29,280 bbl. daily less than the state allowable, but since there is an underproduction estimated at 3.5 per cent, or 49,279 bbl., the state's actual production is 19,999 bbl. under the estimate of requirements.

Districts with 10 shutdown days Saturday had these allowables, compared to allowables of the last Saturday in August:

Southwest Texas 226,989-bbl. allowable, down 2,843 bbl.
Gulf Coast Texas 258,659 bbl., down 3,930 bbl.
East Central Texas 85,166 bbl., down 1,321 bbl.
East Texas 345,075 bbl., down 5,360 bbl.
West Central Texas 47,668 bbl., down 551 bbl.
West Texas 245,135 bbl., down 4,254 bbl.
North Texas 118,127 bbl., down 134 bbl.

A SPECIAL SESSION of the Texas Legislature was convened September 9 for the specific purpose of enacting highway legislation. Subjects other than the highway matter specifically mentioned in Governor Stevenson's call are not to be considered.

NEXT MEETING of the Interstate Oil Compact Commission will be held during the middle of October at either Dallas or Fort Worth, Tex., it has been announced by Gov. Leon C. Phillips, chairman.

The governors of Texas and Oklahoma, last week, discussed functions of the Compact Commission, operating costs and the proposal that a petroleum engineer be added to the staff. Gov. Coke Stevenson, making his first trip outside Texas since succeeding Sen. W. Lee O'Daniel as chief executive of the state, paid a courtesy call to Governor Phillips when the compact discussions took place.

McELROY FIELD OPERATORS have again enjoined the Railroad Commission from enforcing the September allowable. The restraining order prevents curtailment below 35,000 bbl. daily.

CALIFORNIA

CALIFORNIA MARKETERS lost the Japanese export business a month or so ago with the freezing of Japanese credits and the placing of an embargo against future shipments but some of this loss has been made up by the shipment of aviation and motor gasoline to Vladivostok, Russia. The exact amount of refined oil taken by the four tankers to Russia is not known but it must be about 350,000 bbl. The first tanker to sail was the L. P. St. Clair, which is now on the way home. San Francisco offices of Tide Water Associated Oil Co. have announced that its tanker, Associated, reached Vladivostok and is likewise on the way home. Standard's tanker J. C. Fitzsimmons reached the Russian port early this week and after discharging its cargo will return to California. This unexpected business has been a great aid in balancing supply and demand but it is not known whether this movement will continue. If it does it will enable the Conservation Committee of California Oil Producers to maintain a higher allotment than would otherwise be the case. Production during the first few days of September has been averaging a few thousand barrels per day below August production.

ASKED TO KEEP JOB . . .

J. C. HUNTER, Abilene, Tex., has been asked to continue as the personal representative of Gov. Coke Stevenson on the Interstate Oil Compact Commission. Mr. Hunter and Governor Stevenson conferred in Oklahoma last week with Governor Phillips, chairman of the Compact Commission

OKLAHOMA

STATE-WIDE HEARING to establish production allowables for October will be held in Oklahoma City, Okla., September 26. Allowable production during September totals 428,000 bbl., an increase of 13,000 bbl. daily over August and the highest rate of crude withdrawal permitted in the state in more than 18 months. The allowable figure of 415,000 bbl. in August had prevailed unchanged since June.

The most important change in the field-allowable schedule was an increase from 9,500 to 13,000 bbl. daily for the Cement field in Caddo County. The Oklahoma City Wilcox zone was increased 2,000 bbl. to a daily authorized output of 77,000 bbl.

Allocation to all prorated areas was increased from 195,970 to 200,525 bbl. daily, while the unprorated areas were increased from 219,030 to 227,475 bbl.

Complete cessation of production from the East Cromwell extension field during the first few days of this week was ordered last Saturday by the Corporation Commission. The three operators in the pool were in conference again at Oklahoma City Tuesday attempting to agree on an acceptable conservation plan, failure in which at an earlier meeting prompted the commission to close the field.

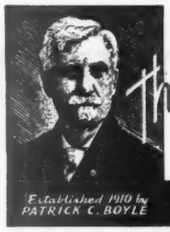
The East Cromwell extension shutdown order was issued by J. J. O'Laughlin, chief conservation officer, who said his deputies had investigated field conditions and found wasteful operating practices in effect.

The East Cromwell extension field was brought into production 2 months ago in Okfuskee County. The field is ¾ to 1½ miles wide and between 5 and 6 miles long.

KANSAS

HEARING HAS BEEN SET for October 20 in the first complaint filed in the Corporation Commission's investigation of alleged production of "hot oil" in excess of proration allowables.

The complaint alleges that a well in Stafford County, Kansas, has produced 88,000 bbl. of crude in excess of its allowable between January 1, 1939, and June 30, 1941. The commission has the power, its attorneys believe, to shut down wells found to have produced in excess of the allowable until the proration schedule balances with withdrawals.



the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Good Account

The manufacturing branches of the petroleum industry, as is their custom, are giving a good account of themselves.

With a minimum of bluster and headlines and minus any program conceived at Washington or elsewhere, several hundred refiners and natural-gasoline manufacturers have adapted their operations to changed conditions with results that are not fully known and appreciated even within the industry itself.

Guided by the economics of their business and a desire to render the maximum service to the nation's defenses, petroleum refining and allied activities are making major contributions to true conservation.

A brief study of the latest government report covering refinery operations for June in this country will reveal what is going on.

For instance, the report shows that gasoline recovery from crude oil, not including natural gasoline, averaged 44.5 per cent, an increase of 1.4 per cent over June, 1940. If the yield had not increased it would have been necessary to refine 3,840,000 bbl. more crude in June to supply the gasoline demand. To this saving, averaging 128,000 bbl. daily, should be added another 50,000 bbl. daily which is the crude-oil equivalent of the 23,000 bbl. daily increase in natural-gasoline output this June.

This explains why refiners, the first half-year, were able to supply a 10 per cent increase in gasoline needs with only a 3.6 per cent expansion in crude runs to stills.

We don't know how this total saving of 178,000 bbl. daily in crude due to the greater gasoline yields should be evaluated in conservation terms. We have the feeling, however, that the contributions made in well-spacing and some of the other production practices which are the subject of governmental regulation will not be of greater importance this year.

And the end in this trend toward greater gasoline yields is not in sight if the federal price administrator does not freeze gasoline prices at levels which will end the incentive for getting more from less.

Refiners this year have given other demonstrations of plant flexibility. Kerosene demands in 1940 increased rapidly but this year they are decreasing. Defense needs have brought exceptionally large outlets for heavy fuels and asphalts. Operations have been adjusted in line with these changed demands and the needs of every customer have been supplied.

Aviation-gasoline requirements have expanded 16.5 per cent this year. To be on the safe side, refiners have increased their output more than the demand and stocks are 25 per cent higher than they were a year ago. Right now they are being asked to double their output of 100-octane gasoline. It is a big job but it will be done.

Large-scale production of explosive materials from petroleum hydrocarbons will be under way soon. The production of synthetic rubber will be an important contribution to this country's total rubber supply next year.

About all that refinery operators ask is to be let alone and also to have sufficient materials and equipment to maintain their plants on an efficient operating basis. They have increased their runs to stills more than 200,000 bbl. daily this year, with relatively little new construction. Most plants are either operating at capacity or in excess of capacity ratings. Further expansion without a comparable addition to plant facilities means reduced efficiency.

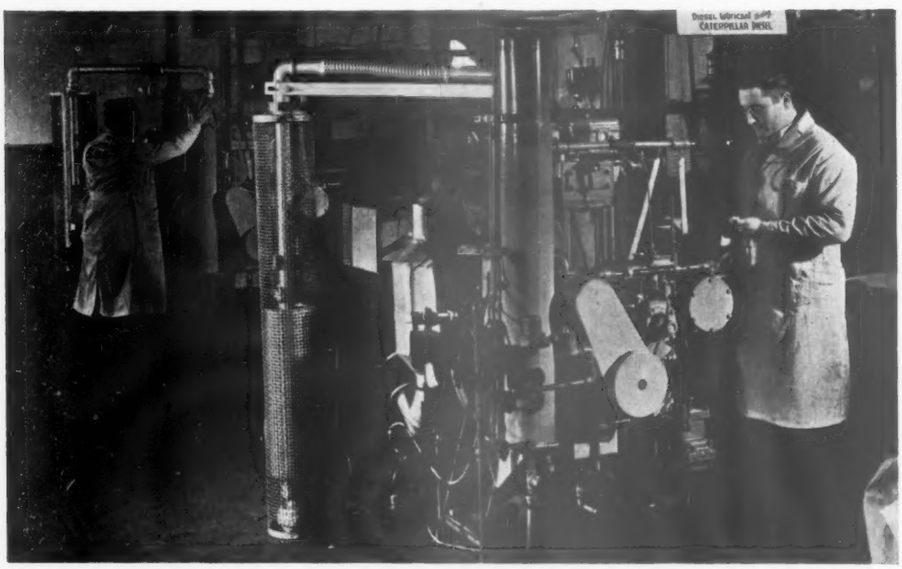
These conditions must be taken into consideration by those who have charge of the allocation of supplies. As pointed out by Thomas Midgley, Jr., inventor of anti-knock gasoline, who was honored at the American Chemical Society meeting this week, refiners' ability to furnish the special defense fuels is largely dependent on their bing able to carry on their regular operating schedules.

Diesel-Fuel Demand Growing Apace With Engine Building

By J. P. O'DONNELL

NEW YORK, Sept. 9.—Last year's 16 per cent increase in the number of diesel engines manufactured in this country will doubtless be at least duplicated this year so that the diesel, as a factor in petroleum-product consumption, will assume an increasingly important position. A total of 30,278 diesel engines aggregating 3,541,-124 hp. were manufactured in the United States during 1940, against 26,062 with a total of 2,726,-323 hp. in 1939.

This year virtually all diesel manufacturers are operating at capacity to meet orders resulting from the national-defense program as well as to meet normal demands. Outstanding among the orders resulting directly or indirectly from the national-defense program is one for 700 radial-type engines for tanks, engines for the 100 diesel-powered vessels, exclusive of U. S. Navy boats, now under construction in United States shipyards and the substantially increased demand for tractors employed on plant, base and other national-defense construction projects.



Above: Testing fuels and lubricants for diesel engines has been and continues to be of immeasurable benefit in expanding acceptance of compression-combustion power

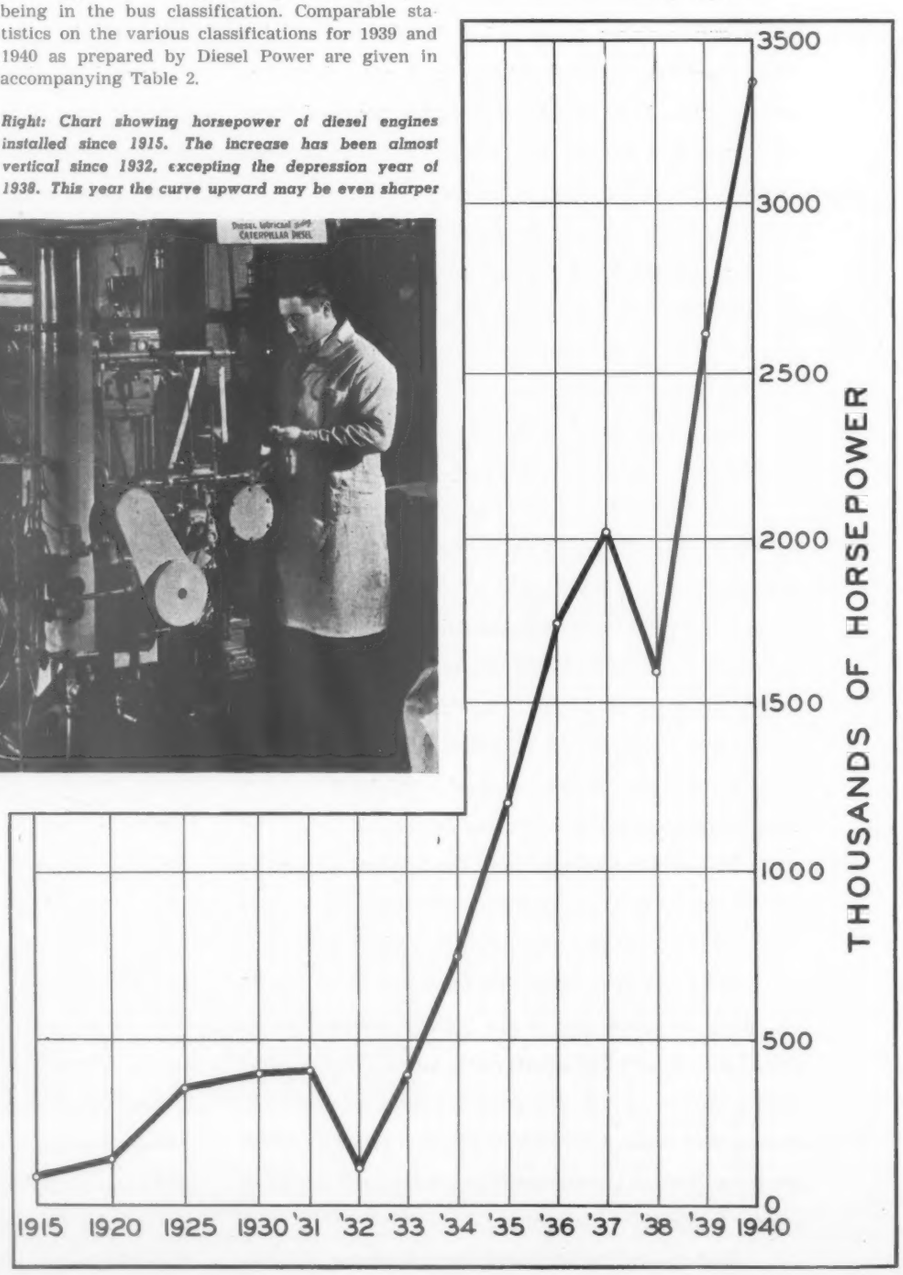
This increase in diesel use will be accompanied by a corresponding increase in the demand for special fuels and lubricants. Demand for diesel fuel has grown remarkably in recent years, far outstripping the gain in demand for all petroleum products. From 1934 to 1939, the last year for which reliable data on fuel-oil consumption are available, demand for diesel fuel increased 87.5 per cent against an increase of 33.8 per cent for all petroleum products. Comparative data on consumption are shown in accompanying Table 1. It will be noted that while there has been an increasing proportion of diesel fuel consumed, it was still less than 2 per cent of the total in 1939. The accompanying statistics do not represent all the fuel consumed in diesel engines but only that part prepared and sold as such. Inclusion of other types of the comparatively wide variety of fuels on which these engines operate would increase their proportion to about 5 per cent of the total.

Statistics on engine manufacture show increases in all types with the greatest proportionate gain being in the bus classification. Comparable statistics on the various classifications for 1939 and 1940 as prepared by Diesel Power are given in accompanying Table 2.

Right: Chart showing horsepower of diesel engines installed since 1915. The increase has been almost vertical since 1932, excepting the depression year of 1938. This year the curve upward may be even sharper

The increased use of diesel engines for buses is due primarily to fuel economies. A more or less typical example is the record of the Burlington Transportation Co., subsidiary of the Chicago, Burlington & Quincy Railroad, a pioneer in high-speed rail-passenger service. The subsidiary company operates a bus line between Chicago and the Pacific Coast. It adopted diesels in 1939 and, on the basis of that experience, increased the diesel

(Continued on Page 93)



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49 Fisher Governor Company Representatives with over 400 Service Engineers are constantly ready to answer your calls for service. Whether it's a trouble job — a call for service on your present equipment or a request for recommendations on an entirely new control problem, you'll find these Fisher engineers ON THE ALERT to help you with experienced, expert advice and counsel. We suggest you make a notation of your nearest Fisher Representative for future reference.

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Back Pressure Valves • Relief Valves • Lever Valves • Float Valves
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Steam Traps • Gas Regulators
Automatic Controls of Special Design

Cracking Held Fundamental in Production of Aviation Fuel

ATLANTIC CITY, N. J., Sept. 9.—The first prerequisite to expansion of aviation-gasoline-producing capacity is development of greater petroleum-cracking facilities from which gases are obtained for eventual processing into airplane-engine fuels. This hypothesis was laid down here Monday at the opening session of the American Chemical Society's 102nd meeting by Dr. Thomas Midgley, Jr., vice president of the Ethyl Gasoline Corp., who was awarded the Priestly Medal, highest honor bestowed by the A.C.S. Dr. Midgley, discoverer of tetraethyl lead as an antiknock agent in gasoline, was honored for outstanding achievement in chemical science.

DR. THOMAS MIDGLEY, JR.

Production of aviation gasoline by rearrangement of the molecular structure of hydrocarbons released in the form of gas in petroleum-cracking operations was reviewed by Dr. Midgley. He used this fundamental step to illustrate that cracking, apparently considered by some government representatives as a routine refinery operation, is in reality the starting point in manufacture of aviation motor fuel and is, consequently, of prime importance from a standpoint of national defense.

The $1,000 prize in pure chemistry, awarded annually to a chemist under 36 years of age, and sponsored this year by Alpha Chi Sigma, national scientific fraternity, went to Dr. Karl A. Folkers of Merck & Co., Inc., Rahway, N. J., for important contributions in the field of organic chemistry. Dr. Folkers has isolated many rare alkaloids from tropical plants and has conducted intensive research in the fields of vitamins and pyrimidines.

Prof. William Lloyd Evans of Ohio State University, president of the A.C.S., made the presentations. In an address accepting the Priestley Medal, given once every 3 years, Dr. Midgley, who is chairman of the board of directors of the society, gave a demonstration of spectacular industrial developments arising from research with which he has been associated during the past 20 years.

By means of an actual gasoline engine, chemical apparatus, motion pictures, and slides, Dr. Midgley demonstrated the effect of antiknock material in a running engine; the nontoxic, noninflammable properties of certain organic fluorides largely responsible for a great portion of the air-conditioning industry; the experiments through which he and his associates discovered that rubber containing oxygen could be vulcanized by the addition of Grignard reagents; and the process of commercially extracting bromine from sea water.

His discovery in 1922 of tetraethyl lead was made after he and his colleagues in the General Motors Research Laboratories had tried more than 33,000 different chemical compounds without success. Dr. Midgley, born in Beaver Falls, Pa., in 1889, is a graduate of Cornell University. He holds the Nichols Medal of the society's New York section, and the Perkins Medal of the Society of Chemical Industry. The honorary degree of doctor of science was conferred upon him by Wooster College. Dr. Midgley is a fellow of the American Association for the Advancement of Science. In September 1940, Dr. Midgley was stricken with infantile paralysis. He actively participated in convention proceedings.

Abstracts of 16 papers presented at meetings of the Division of Petroleum Chemistry are published on Pages 49 and 50 of this issue. Papers deal with new developments in the chemistry of petroleum and present a composite picture of the trend in research and development work.

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DEATHS

JAMES A. OWENS, 57, Dallas, Tex., employe of Mid-Continent Drilling Contractors, Inc., of Dallas, died August 29 at Gainesville, Tex., from injuries received in an automobile accident.

ROSS HALLAM, 36, labor foreman at Shell Oil Co., Inc.'s refinery, Deer Park, Tex., died in a Houston hospital September 2 from burns received while cleaning a tank.

C. W. GRAHAM, 59, Olney, an oil-field pumper in Young County, Texas, died September 3 in a Wichita Falls, Tex., hospital.

HOMER H. BENSON, 50, superintendent, M. B. Armer, Inc., was fatally injured in an automobile accident south of Russell, Kans., recently. His widow and two daughters survive.

AARON COHEN, 70, father of Henry Cohen, San Antonio, Tex., oil producer, died in Baltimore, Md., August 7. Mr. Cohen had followed the oil business for 37 years.

JAMES PALMER BLACKFORD, 53, assistant secretary of the Northern Pipe Line Co., Oil City, Pa., died last week at his home following a lingering illness, although he remained active in business until his death. He was born at Knox, Pa., August 28, 1888, and moved to Oil City 35 years ago where he made his home until his death. Mrs. Blackford, three sons, a sister and a grandson survive.

C. C. SCOTT, Ness City, Kans., superintendent for Kansas-Wyoming Oil Co., was fatally injured on the company's oil lease 45 miles from Laramie, Wyo., August 30.

NEAL E. WARD, 32, Kane, Pa., employe of Olean Petroleum Co., was electrocuted on the company's lease near Kanesholm, Pa., last week. Mr. Ward was tapping an open wire leading from an electrically operated pumping device when he came in contact with it. His wife survives.

CHARLES LOUIS HOGAN, 61, president and general manager of the Lone Star Cement Corp. and one of the leaders of the portland-cement industry, died in New Rochelle, N. Y., hospital September 5. Mr. Hogan, whose home was in Mount Vernon, N. Y., leaves a widow, Mrs. Margaret Groves Hogan, and a daughter, Mrs. Robert R. Booth, of Mount Vernon.

GEORGE W. MAYS, 69, Tulsa, an early-day driller in three continents, died last week. In his more-active days he engaged in oil drilling in Pennsylvania, India, and South America. In recent years he served as custodian for public schools in his community. A son, John Mays, Tulsa, survives.

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Wirt Franklin Opening Oil Coordination Office

CHICAGO, Ill., Sept. 9.—Wirt Franklin, independent operator of Ardmore, Okla., is opening the District 2 petroleum coordinator's office here at 624 South Michigan Avenue.

William K. Tell has been appointed counsel for the district committee and will be in active charge of the office.

A general meeting of the district committee was held September 4 at which routine matters were discussed. Problems pertaining to coordination of the petroleum industry for District 2 should be submitted to the Chicago address.

THE MARKETS*

CRUDE OIL: Prices are strong throughout the country. Only change was a slight advance of 2 cents per barrel, effective September 4, for all gravities of crude produced in the Cumberland field in Oklahoma. The change was an adjustment for average gravity rather than a reflection of particular strength. Possible movement of larger quantities of crude from the Middle West to the East Coast by tank cars may further strengthen the interior crude market.

REFINERY PRODUCTS: Modification of the gasoline-price ceiling on the Gulf Coast, authorized by Leon Henderson, price administrator, has not satisfied refiners in that district. The gasoline-price limit was raised to 6.5 cents for 80-research material. Natural gasoline is one of the strongest products on the list. Movement against winter fuel requirements is brisk. Burning oils are also in strong demand.

TANK WAGON AND POSTED DEALER: Upward adjustments at scattered points in the South Atlantic district made late in August were reported this week. Other markets are relatively stable. Eastern marketers continue their fight against the list of "fair prices" posted for 40 representative cities. Claim is made that 4-cents margin incorporated in the price compilations is insufficient.

FINANCIAL: Average prices for 30 representative stocks for the week ended September 6: High, 26.51; low, 25.76; close, 25.94.

*Detailed information in Market Section.

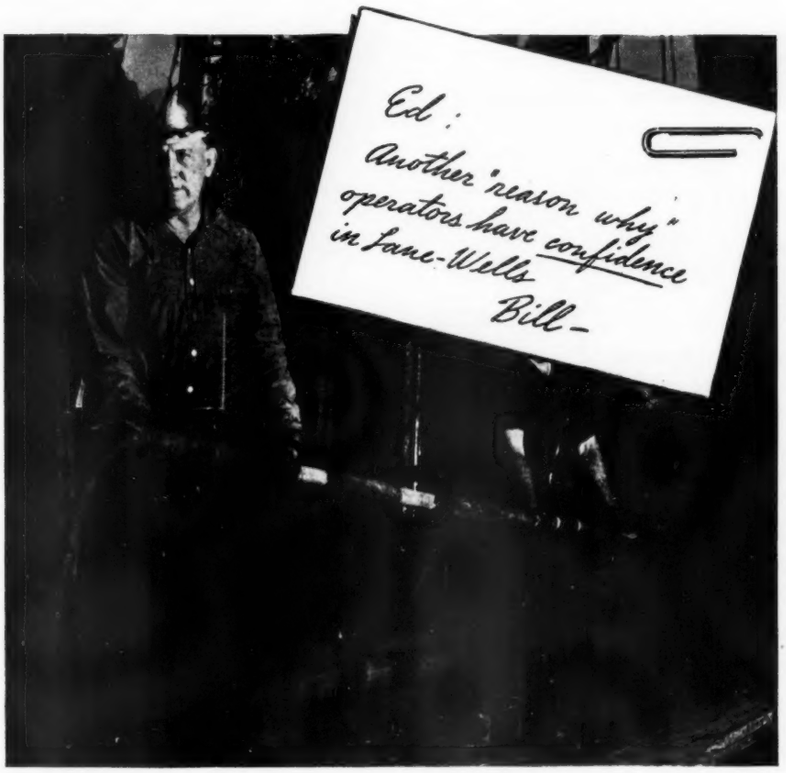
LANE-WELLS *Electrolog* GETS DOWN IN THE HEAVIEST MUD

When the going gets heavy you can rely on Lane-Wells Electrolog cable and electrode assembly to pull itself to bottom. The design and construction of Lane-Wells Electrolog cable provides more than enough weight to *get down*—even in the heaviest muds.

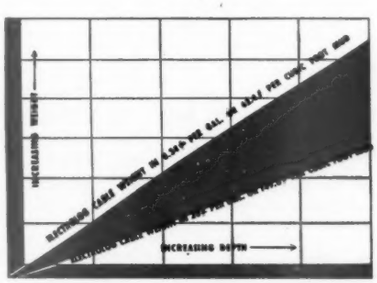
In addition, the relatively small variation in cable weights at any depth compared to the variation in mud weights is an important factor in Electrolog's maintenance of uniform depth measurements.

These are two important "reasons why" more and more operators call for Lane-Wells Electrolog to "get the job done right."

For your next Electrolog job—
"Call Lane-Wells."



Electrolog CABLE CHART SHOWS OPERATING CHARACTERISTICS



Lane-Wells Engineers will be glad to show you the complete, detailed chart of Electrolog weight, depth and mud weight curves.

Electrolog cable sinks in even the heaviest muds because it weighs more than the volume of mud it displaces. Even 20-lb. per gallon or 149.6-lb. per cubic foot mud is not heavy enough to float the steel armored cable that lowers the electrode into the hole.

LANE WELLS *Everywhere*

Service on Active Fields

FARGO FIELD, WILBARGER COUNTY, NORTH TEXAS

Compiled by The Oil and Gas Journal

GENERAL

Geographic location

In extreme northern Wilbarger County, North Texas, and just south of the Red River. Towns in the area are Vernon, 11 miles south; Fargo, 2 miles south; Wichita Falls, 60 miles southeast; Amarillo 170 miles northwest, and Fort Worth 177 miles southeast.

Supply companies and trucking

Supply centers for North Texas oil activity have long been established at Electra, Wichita Falls, Vernon, Fort Worth, and Amarillo, as well as many smaller North Texas towns. Adequate railroads and shipping facilities are networked throughout the area.

Most of the general field hauling is obtainable from Vernon, Electra, or Wichita Falls and heavy hauling is available from any of the larger towns in the district.

DEVELOPMENT

Early development

The field was opened by Amerada 1 Goodpasture, SW SW Section 35, Block 15, H.&T.C. Survey, 11 miles north of the town of Vernon on July 3, 1940. The well gaged 407 bbl. of oil in 20 hours from the Cisco sand from 3,230-52 ft. The second well drilled in the area, Amerada 1 J. H. Parker, 1 mile to the south, opened the second pay level for the area when it was completed on October 2, 1940, for 93 bbl. of oil in 11 hours from the upper Strawn lime from 4,437-55 ft. The third level for the field was opened by Amerada 1-B Dodson, in the field proper, when it gaged on January 4, 1941, a flow of 113 bbl. in 3 hours from the Canyon sand from 3,982-4.002 ft.

Subsequent development

Several wells are now producing from each of the three levels. However, the majority of the development has been from the 3,985-ft. depth. The true extent of the productivity of any one of the levels is still not definitely known, but they do overlap at several points in the field. There are 34 wells completed in the field of which 6 are in the 3,250-ft. (Cisco sand), 20 are in the 3,985-ft. (Canyon sand), and 8 are in the 4,450-ft. (Strawn lime), with 5 rigs active and 5 additional locations staked.

Production and proration

The production and proration of the wells is governed by field rules embodied in a special order dated July 26, 1940, which was adopted by the Railroad Commission of Texas. Allowables have been allotted entirely on acreage basis, and this basis is to continue until January 1, 1942, at which time a bottom-hole-pressure survey is to be made. Thereafter, allowables are to be fixed on the basis of bottom-hole pressures as well as the acreage in the proration unit. The present daily well allowable for a 40-acre proration unit is 55 bbl. per producing day with the number of shutdown days varying from month to month.

Spacing pattern

Official Texas Railroad Commission rules place the field on a 40-acre development basis with no optional pattern considered.

PRESENT OWNERS OF PRODUCING LEASES

Name—	No. of wells
Amerada Petroleum Corp.	25
Humble Oil & Refining Co.	6
Anderson-Prichard Oil Corp.	2
Texas Co.	1
Total	34

GEOLOGY

Method of discovery

Reflection seismograph.

General geology of field

The subsurface indicates that the structure is an anticlinal fold with the axis running northwest and southeast. Dips on the east flank are steeper than on the west flank.

The West Frederick area, lying about 15 miles east of Fargo, has production in the Canyon and Arbuckle. The latter is equivalent to the Ellenburger of Texas and this production together with Ellenburger production in Electra and K.M.A. to the southeast, make the Ellenburger a possible producer in Fargo.

As the field is on proration, no decline curves have been drawn. Based upon present knowledge of the field, estimated ultimate production may be placed at 4,000 bbl. per acre for each pay.

FUTURE DRILLING

Proven area

Present production has proven about 2,000 acres of the surface for oil production, but due to the overlapping of several of the producing levels there is probably actually more area than this proven. The field is defined by failures on the east, the south, and the west.

Based on the present 40-acre development pattern there are some 23 undrilled locations in the field. There is still an area north of the field which is neither condemned nor proven. Should twinning become a later practice in the field there will be even more sites to drill.

DRILLING CONDITIONS

Type of equipment used

Mechanical rotary-drilling rigs are used in conjunction with either portable or 96-ft. standard-type drilling derricks.

Type bits used

Practically all rock bits are used in drilling from the surface to the completion of the wells.

Drilling time

Wells are completed approximately as follows:

3,250-ft. pay, 13 days
3,975-ft. pay, 17 days
4,450-ft. pay, 26 days

Drilling mud

Natural-formation mud is used in drilling and no trouble has been encountered.

No water has been encountered in the field.

Casing program

Regulations require surface casing to be run not less than 25 ft. into the red beds and cemented to the surface, an oil string to be cemented not higher than the top of the producing horizon. Surface pipe used is 80 ft. of 8⅝-in. casing and the oil string used is 5½-in., 14-lb. casing set on top of the producing horizon.

Drilling costs

Total costs of completed flowing wells to the various pays are approximately:

3,250-ft. pay, $14,000
3,975-ft. pay, $17,000
4,450-ft. pay, $21,000

PRODUCING PRACTICES

The wells flow naturally through chokes to produce the daily allowables. The most common size of choke used is a ½-in. on 2-in. tubing. The daily allowable is produced, then the well is shut in.

Pipe-line outlet

Bell Western Corp., an affiliate of Bell Oil & Gas Co., of Tulsa, has constructed a new 4½-in. line from the Fargo field due east to Grandfield, Okla., where it ties into the Bell refinery. A 4-in. gathering system has also been installed. A diesel pumping station with capacity to handle 8,000 bbl. daily is located 1 mile north of the townsite.

The purchasing company handling the oil from the field will be the Bell Western Oil Co. The line should be in operation on September 15 and meanwhile the field is being serviced by truck movement.

PHYSICAL DATA

Bottom-hole pressures

Pressures taken on a few of the wells average:

3,250-ft. pay, 1,400 lb.
3,975-ft. pay, 1,720 lb.
4,450-ft. pay, 1,950 lb.

Gas-oil ratio

Ratios are low in the three producing horizons and will range from 350 to 400 cu. ft. per barrel of oil.

CRUDE-OIL ANALYSIS

	Lime production	Sand production
Physical characteristics—		
A.P.I. gravity	41.5	41.2
Color	Dark green	Dark green
Salt	none	none
Odor	sweet (no H_2S) No b.s. and w.	sweet (no H_2S) No b.s. and w.
Analysis:		
Gasoline	400° ep. 35.0%	400° ep. 35.0%
Kerosene	42.3 gr. 13.0%	42.3 gr. 10.0%
Gas oil	37.1 gr. 14.0%	37.4 gr. 11.0%
Bottoms	25.6 gr. 36.0%	26.5 gr. 26.5

Analysis of products—

	Lime production				Sand production			
	Gasoline	Kerosene	Gas oil and bottoms		Gasoline	Kerosene	Gas oil	Bottoms
A.P.I. gr.	59.1	42.3	28.3		58.4	42.3	37.4	26.5
I.b.p.	118	346	448		120	368	446	556
5%		399	548			398	493	...
10%	182	410	568		180	408	501	...
20%	209	422	...		206	417	508	...
30%	232	429	...		226	424	514	...
40%	251	435	...		246	430	521	...
50%	270	441	...		261	430	530	...
60%	288	447	...		278	444	542	...
70%	310	455	...		299	454	558	...
80%	336	464	...		318	468	576	...
90%	364	478	...		349	488	608	...
Max	403	506	...		401	549	703	...
Rec.	97.0	98.1	...		97.5	98.3	98.0	...
Res., %	1.0	1.2	...		1.0	1.5	1.6	...
% at 572	...	...	1.15		...	...	78.5	0.5

Fargo field, Wilbarger County, North Texas

Heydrick Map Co., Wichita Falls

The good news confirmed

What would it be worth to you if each day in your refinery every barrel of your fuel oil were by some magic transformed into 35-40 gravity crude?

The Dubbscracking process will in effect do this, which no magician can

That ad was published in 1923 and it was good news then

Most refiners in 1923 *had* to have high gravity (and high-priced) crude or gasoline yield was low—sometimes too low to pay for the crude—and fuel oil was often a drug on the market

Dubbscracking has been confirming that good news ever since

On July 30, 1941, a Universal ad said:

Dubbscracking gets the highest value from low-priced crude—from any oil you run—high yields of anti-knock gasoline, special quality fuel oil and other wanted products

And it's true

It's still a good story, and getting better—new U. O. P. developments and processes are writing new chapters every day

It's still good news for refiners—and for U.S.A.

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

International

Mexico . .

Production Declines From Peak Established in May

PRODUCTION of crude oil in Mexico receded slightly in June from its recent record of 135,136 bbl. daily registered in May. The daily average production of 127,075 bbl. in June, however, was above the output for several months preceding the bulge in May.

Poza Rica, the largest and most prolific field in Mexico, accounted for 2,430,286 bbl. of the total June production of 3,812,242 bbl. The Poza Rica field produced 62 per cent of all Mexican crude in June compared to 56 per cent in May when the country's output totaled 4,054,073 bbl.

Substantial declines in June were reported for the North and South Tampico producing regions and a more moderate drop was registered in the Isthmus fields. On the other hand, Poza Rica's production of 2,430,286 bbl. in June, a daily average of 81,010 bbl. was considerably higher than the total of 2,287,208 bbl., an average of 73,781 bbl. daily, reported for the field in May.

Production by districts for the 3 months of the second quarter appear in the following table:

(Figures in U. S. barrels)

Regions—	April	May	June
North Tampico	490,482	512,530	443,545
South Tampico	509,107	688,964	420,742
Poza Rica	1,946,271	2,287,208	2,430,286
Isthmus region	498,754	565,371	517,669
Total	3,444,614	4,054,073	3,812,242
Barrels daily	114,820	135,136	127,075

According to government reports all but about 4.5 per cent of the country's crude-oil production comes from properties owned and operated by Petroleos Mexicanos. The minor producing interest is in hands of companies and individuals whose properties escaped expropriation in 1938.

Charges that Petroleos Mexicanos, the government petroleum agency, has contracted to sell Mexican oil on a basis of 67 cents per barrel or less were made last week in Mexico City by Congressman Braulio Merz Nevares. Statements of Deputy Nevares were later denied by Efrain Buenrostro, manager of Petroleos Mexicanos. The denial, however, did not contain any detailed refutation.

Deputy Nevares charged further that a few contracts with Cuban sugar and raliroad interests provided for prices even lower than the 67-cent figure which he said was the standard price on export sales. Another point in petroleum contracts which brought objection from Deputy Nevares is the stipulation in agreements that Petroleos Mexicanos must make deliveries at specified dates or suffer a severe financial penalty. Provisions of the Cuban contracts make it incumbent on Petroleos Mexicanos to purchase crude in the higher open market, if necessary, rather than suffer the penalty of delayed deliveries.

OIL companies whose Mexican properties were expropriated 3½ years ago disclaim any knowledge of the reported agreement by which their claims against the Government of Mexico are to be liquidated. They also deny that they have been approached on adjusting valuation of their seized properties.

Under the plan as it has been reported this country would give Mexico money to pay obligations to American oil companies. This money would be part of $30,000,000 provided by the U. S. Treasury for the stabilization of Mexican currency. Loans and credits would provide funds.

American oil companies, reports say, are to receive $9,000,000 in an initial payment and with it a pledge that additional cash payments will be made and certain amounts of crude oil at a price 20 per cent below the market value will be delivered. Such a solution is not acceptable to the oil companies who value their holdings at $175,000,000. The oil companies believe that such a settlement would also be opposed by British companies whose holdings have been valued at $250,000,000. The British foreign office recently reiterated a former stand in which it demanded return of the properties.

None of the oil companies participated in the discussions leading to the agreement reported to have been reached by representatives of the Mexican Government and the Department of State. The agreement is expected to be announced in detail within a month. It will entitle Mexico to retain full ownership and operation of the properties.

What the ultimate payment to the American companies would be is not known. However, the initial payment of $9,000,000, in view of the claim of 20 times that amount, is not encouraging. So far as obtaining oil at less than market prices, the companies point out that due to the present shortage of tanker facilities they would be unable to take more oil than is now being exported from Mexico.

Colombia . .

Slump Reported in Crude Production and Exports

JUNE crude-petroleum production fell to 2,077,936 bbl. from 2,290,315 bbl. in May. The volume of crude refined in June amounted to 263,682 bbl., compared with 289,223 bbl. in the preceding month. Exports of crude decreased to 1,533,276 bbl. from May shipments of 2,316,690 bbl.

The following tabulation shows details of Colombian production of petroleum products (in barrels of 42 U. S. gal.):

Product—	May 1941	June 1941
Gasoline	86,888	87,537
Ethyl gasoline	4,580	2,277
Kerosene	16,838	10,284
Power kerosene	4,236	6,287
Fuel oil	151,700	107,342
Gas oil	11,901	16,365
Residual fuel oil	1,777	1,432
Asphalt	4,687	3,895
Lubricants	25,710	.....
Naphtha	312	537
Dry-cleaning fluid	277	529
Topped crude	30,182	83,306

Natural gasoline consumed in refinery blending during June reached 57,473 bbl., compared with 55,123 in the preceding month.

Ecuador . .

Production Rises During Second Quarter Period

NET production of crude oil during the second quarter of 1941 was 440,875 bbl., compared with 324,765 bbl. in the preceding quarter and 625,545 bbl. in the second quarter of 1940, according to official statistics released by the U. S. Department of Commerce.

Products derived from refining operations in Ecuador in the second quarter of 1941 totaled 132,710 bbl., compared with 113,975 bbl. in the same period of 1940. Products recovered included 31,155 bbl. of gasoline in the second quarter of this year against 27,303 bbl. in the same period a year ago.

Iran . .

British Strengthen Oil Control in Near East

ESTABLISHMENT of Allied control over Iran has, at least temporarily, assured British forces of full direction of the Near East's largest petroleum supply. Iran is the largest producing country among several surrounding the Persian Gulf and normally supplies more than 200,000 bbl. daily. One of the world's largest refineries at Abadan, at the north end of the Persian Gulf has capacity of 300,000 bbl. daily and facilities include the most modern equipment for the manufacture of aviation gasoline and other quality products.

In 1939, the last year for which detailed information is available, Iran produced 77,030,000 bbl. of crude, according to a manuscript prepared by Anglo-Iranian Oil Co., Ltd. Practically all utilized production in Iran is withdrawn from the Masjid-i-Sulaiman and Haft Kel fields. In 1939, Masjid-i-Sulaiman produced 26,670,000 bbl. and Haft Kel supplied 50,360,000 bbl. Both fields are serviced by pipe lines terminating at Abadan on the southern border of the country.

During the late months of 1939, another pipe line was completed from the Gach Saran area, about 125 miles east of Abadan, to the refinery and regular production since has been established from that field. Wells completed during the early stages of development at Gach Saran indicated that the field would prove comparable to the other producing districts on the Anglo-Iranian Oil Co. concession.

The Naft-i-Shah field, near the Iraq border, had been used exclusively in supplying local requirements up to the time the European war started 2 years ago. The Pazanun structure had been proven for gas production and at least one commercial oil well had been completed on the Agha Jari structure at the time detailed information was shut off because of the war.

In addition to the immediate necessity for protecting the Iran oil supply of 200,000 bbl. daily for its own purposes, the British are now in position to control the entire petroleum output of Iraq, Bahrein Island and Saudi Arabia which aggregate more than 150,000 bbl. daily. Kuwait, another minor kingdom bordering on the Persian Gulf and lying between Iraq and Arabia, has an undetermined reserve of potential production developed by Kuwait Oil Co., a joint subsidiary of Gulf Oil Corp. and Anglo-Iranian.

Other American oil companies interested in Near East producing countries which are indirectly affected by the British move against Iran include the Texas Co. and Standard Oil Co. of California which jointly control Bahrein Petroleum Co., Ltd., and California Arabian Standard Oil Co.

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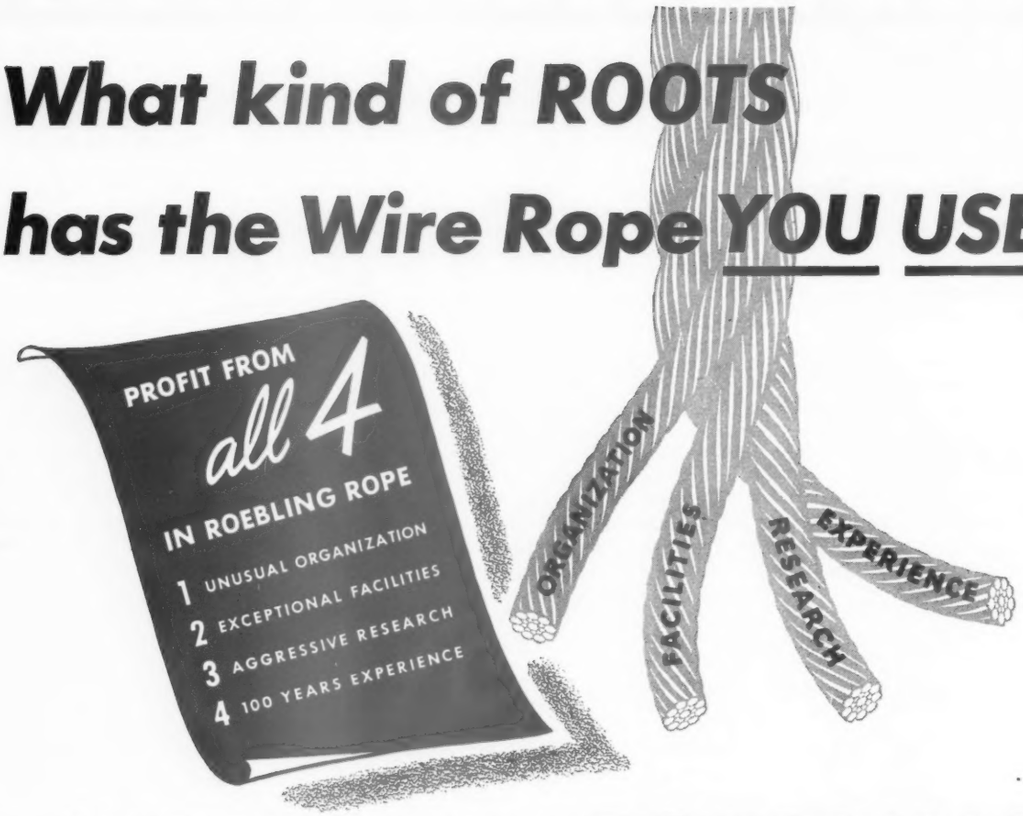

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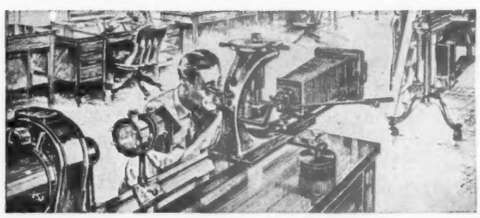

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Refinery Expansion

Small Tankers Make Debut On the Mississippi River

ST. LOUIS, Mo., Sept. 9.—Oil shipments at many points along the Mississippi River are at record highs. This development is accounted for in part by the normal growth of industrial activity throughout the Middle West as a result of the defense program but also is the result of oil companies diverting traffic to the rivers which would have otherwise been handled by East Coast tankers and pipe lines.

Chester C. Thompson, president of the Federal Barge Lines, recently said:

"Tonnages of petroleum products carried on the Mississippi are at the highest point in history with tows of from 6 to 10 barges, hauling 10,000 tons or better, passing regularly.

"In addition, oil and gas barges and—something new—river tankers, are being rushed in boat yards here and at other points on the river. One such tanker, the 'Minneapolis Husky,' with a capacity of 13,500 bbl., has just been put into service."

Mr. Thompson also said that general river traffic is experiencing a boom, indirectly because of the defense program, with north-bound cargoes showing greatest increases. Business done by Federal Lines, the river's largest carrier, in June and July, 1941, was 100 per cent over the same 2 months last year, he declared.

Second Fuel and Lubricant Testing Course Being Offered at Kilgore

Applications are now being taken from men qualified to enroll in the second Fuel and Lubricant Testing Defense Course to be sponsored by the Texas A. & M. College as a night school course at the Kilgore (Tex.) Junior College. This is an engineering defense training course to train inspectors of motor fuels, diesel fuels, and lubricating oils. Prerequisites are 2 years of college engineering training including chemistry and physics. The federal Government pays all costs of instruction.

The course will be the same as the one just finished in which 22 men received certificates. The course furnishes a reservoir of refinery oil inspectors and testers.

The new course will start September 22 under Prof. George H. Cooke as instructor. Details of the course are available from him at College Station, Tex.

Specifications Issued for All-Purpose Motor Fuel

The adoption of specifications for the all-purpose motor fuel by the federal Government as part of U. S. Army Specifications 100-2 causes refiners to be concerned with more than the 80-octane value demanded of that fuel. The detailed specifications for the three grades needed to provide for climatic differences in the country follow:

SPECIFICATIONS ON ALL-PURPOSE GASOLINE

Test—	Classification—		
	B70	B60	B50
Distillation test, min. per cent evap. at stated temp., °F.:			
10 per cent evap.	158	140	122
50 per cent evap.	257	257	257
90 per cent evap.	356	356	356
Residue, per cent, max.	2	2	2
Vapor pressure, lb., max.*	8	10	12
Octane number, A.S.T.M., min.	80	80	80
Gum, mg./100 ml., max.	7	7	7
Sulfur, per cent, max.	0.10	0.10	0.10
Corrosion	none	none	none

*When vapor pressure measurements are made on samples taken at the refinery or from tank cars, barges, or bulk storage, an additional 1 lb. per sq. in. in vapor pressure shall be allowed, except that no increase in vapor pressure will be permitted when the motor fuel is for use in tropical areas (23½° north latitude to 23½° south latitude).

The class of motor fuel to be supplied in any locality at any one season of the year shall conform to the following tabulation, and each contractor shall automatically make seasonal modifications in accordance with this tabulation:

Month—	State Group 1*	State Group 2†	Tropical areas (23½° N. lat. to 23½° S. lat.)
Jan. and Feb.	B60	B50	B70
March	B60	B50 or B60	B70
April	B60	B60	B70
May	B60 or B70	B60 or B70	B70
June, July and Aug.	B70	B70	B70
September	B70 or B60	B70 or B60	B70
October	B60	B60	B70
November	B60	B60 or B50	B70
December	B60	B50	B70

*State Group 1 comprises Alabama, Arizona, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oregon, South Carolina, Tennessee, Texas, Virginia and the District of Columbia.

†State Group 2 comprises Colorado, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont, Washington, West Virginia, Wisconsin and Wyoming.

Oldest Texas Refinery at Corsicana Ceases Operation

Operation of Magnolia Petroleum Co.'s Corsicana, Tex., refinery was ceased September 6, fulfilling a program announced several weeks ago by D. A. Little of Dallas, Tex., president of the company.

"Conditions over which we have no control make it necessary to discontinue the operation of our refinery at Corsicana," Mr. Little wrote in a letter to Corsicana business interests.

The Corsicana refinery started operations Christmas Day, 1896, and had been in continuous operation, excepting for brief periods for repairs, until final closing last Saturday. Most of the employes have been transferred to other Magnolia refineries.

Committee of Canadian Refiners To Advise on Gasoline Problems

An advisory committee of seven presidents of Canadian oil companies has been named to assist the oil controller and the minister of munitions and supply in dealing with Canadian gasoline problems.

The members are: A. L. Ellsworth, British-American Oil Co.; P. M. Fowlie, Shell Oil Co. of Canada; John Irwin, Canadian Oil Companies; R. Rosefield, Goodrich Refining Co.; G. Harrison Smith, Imperial Oil; J. J. Schafer, Sun Oil Co.; J. A. Wales, McColl-Frontenac Oil Co.

Recycling News

Joyce Richardson Field Gains Recycling Project

The Christian-Carpenter Drilling Co., and Mrs. Joyce Richardson of Houston, Tex., have let contract to H. M. Harrell of Shreveport, La., for the construction of a recycling plant in the Joyce Richardson field, northwest of Houston in Harris County, Texas.

The plant is to be on the J. C. Ogburn farm and will have a daily capacity of 20,000,000 cu. ft. of gas.

Contract Let for Plant In Matagorda County, Texas

The American Liberty Oil Co., Dallas, Tex., has let contract for the construction of a recycling plant in the Blessing field, Matagorda County, Texas.

Natural Gas

Nearly 2 Billion Feet of Gas Daily Reinjected in Texas

Nearly 2 billion cubic feet of natural gas daily is returned to formations in Texas fields after it is passed through pressure maintenance, recycling, and repressuring plants in the state which now total 42.

Recycling plants in Texas are producing 15,815 bbl. of condensate, 10,537 bbl. of gasoline, 389 bbl. of propane, and about 1,700 bbl. of miscellaneous products in their daily operations.

The Texas Railroad Commission has encouraged recycling operations by classifying condensate wells as gas wells on the contention that condensate was in a gaseous state in the reservoir before condensation took place in the producing operation.

The commission held a hearing last Friday to grant a permit for a proposed recycling plant to handle from 25,000,000 to 30,000,000 cu. ft. daily produced by six wells of the Texas Co. in the Blessing field, Matagorda County, Texas. American Liberty Oil Co., Dallas, Tex., will build and operate the recycling plant.

Earlier last week, Humble Oil & Refining Co. and other operators in the Lovells Lake field announced plans for construction of a $400,000 pressure-maintenance plant there. A majority of the repressuring, recycling, and pressure-maintenance plants in Texas were built during the latter part of 1938 and during 1939.

Imperial Gas Purification Plant Started at Sarnia

SARNIA, Ont.—Site has been cleared at the Imperial Oil refinery here for a $1,000,000 plant to purify residual gas for the Union Gas Co. of Canada.

Contract has been awarded Robertson Construction & Engineering Co. of Niagara Falls, N. Y.

The gas, a byproduct of refining operations, will have to be purified and processed before blending with natural gas for domestic consumption. Heretofore, it has been used for refinery fuel, but for that purpose will be replaced by fuel oil.

Hill Suggests Government Use Surplus Tank Cars

That the federal Government is in the best position to utilize tank cars in shipping gasoline and other products to the Atlantic seaboard is suggested in a communication sent Acting Petroleum Coordinator Ralph K. Davies by George A. Hill, president, Houston Oil Co. of Texas.

Referring to telegrams sent from the coordinator's office, urging full use of tank cars now reportedly lying idle, Mr. Hill says: ". . . it is quite apparent that the federal Government itself should undertake to purchase at the refineries gasoline and other products for various federal uses . . . and that the U. S. Government should undertake itself to transport all gasoline and petroleum products so purchased, at the federal Government's own cost and expense, by the use of tank cars to its various Navy, Army, Marine Corps cantonments, terminals, supply depots and also to such leased storage depots along the eastern seaboard that are suitable and procurable."

Among advantages accruing from this program, Mr. Hill notes:

The immediate use of tank-car facilities for the movement of oil products to the Atlantic seaboard.

Elimination of the problem of allocating additional costs through a private pooling agency, which would doubtless be illegal.

The possible establishment of an emergency rate to such a large consumer, which rate could be disposed of readily after the passing of the emergency.

Defense Position of Oil Industry to Be Reviewed

Current position of the petroleum industry with respect to the national-defense program will occupy attention of National Petroleum Association members at their annual meeting in Atlantic City, N. J., September 17 and 18.

The list of speakers accepting invitations includes Secretary of the Interior Harold L. Ickes, petroleum coordinator; Wright W. Gary, director of refining, and H. A. Gilbert, director of transportation for the OPC.

Dr. Gustav Egloff, director of research for Universal Oil Products Co., Chicago, will discuss national-defense chemicals manufactured or procurable from petroleum and Lord Marley of London, deputy speaker of the House of Lords, will review regulation of business and labor relations in the British emergency.

Group meetings Wednesday and Thursday mornings will afford opportunity to discuss more technical phases of operations. Included in the program is a discussion of the 1941 revenue act by Ellsworth Alvord.

Paul Wooten, Washington correspondent, will talk on War Conscious Washington.

Details of the program with exception of one speaker yet to be announced follows:

General Sessions

Wednesday Afternoon, September 17
2 p.m. (Daylight Saving Time)

President's address: N. H. Weber, president, National Petroleum Assocation.

Appointment of committees.

National-Defense Chemicals From Petroleum: Dr. Gustav Egloff, Universal Oil Products Co.

Address: Harold L. Ickes, petroleum coordinator for national defense.

(In the event Mr. Ickes is unable to keep this engagement, Ralph K. Davies, deputy coordinator, will speak.)

Report of nominating committee.

Election of trustees.

Wednesday Evening, September 17
8 p.m. (Daylight Saving Time)

Board of trustees meeting.

Thursday Afternoon, September 18
2 p.m. (Daylight Saving Time)

War Conscious Washington: Paul Wooten, Washington correspondent, McGraw-Hill Publications.

Business Regulation in Britain: Lord Marley.

Additional speaker to be announced.

Thursday Evening, September 18
7 p.m. (Daylight Saving Time)

Fellowship supper: Traymore Hotel (cocktails at 6:30 p.m.).

Friday Morning, September 19
11 a.m. (Daylight Saving Time)

Seaview breakfast: Members and their friends will be guests of the Pennsylvania refiners.

Group Meetings

Wednesday Morning, September 17
10 a.m. (Daylight Saving Time)

A.P.I. Lubrication Committee: Rose Room, L. C. Welch, chairman.

Department of Fire and Accident Prevention: Mandarin Room, Harry S. Elkins, presiding.

Meeting of executive committee.

Thursday Morning, September 18
10 a.m. (Daylight Saving Time)

Department of Manufacture: Rose Room, M. C. Mallon, presiding.

Speaker: Wright W. Gary, director of refining, office of petroleum coordinator.

Department of Taxation: Mandarin Room: J. E. Keller, presiding.

1941 Revenue Act, discussion by Ellsworth Alvord.

Department of Traffic and Transportation: Pine Room, Harry S. Elkins, presiding.

Speaker: H. A. Gilbert, director of transportation, office of petroleum coordinator.

Membership of Three Standing Subcommittees Announced

Appointments to membership on standing subcommittees on fuel oil, asphalt and advertising have been announced by Acting Petroleum Coordinator Ralph K. Davies. These subcommittees will investigate problems arising in their particular fields of activity and will consult and advise the District 1 marketing committee (Atlantic seaboard) on their findings.

The personnel of the subcommittees follows:

On asphalt: R. T. Haslam, Standard Oil Co. of New Jersey, New York; Ralph Heath, Barber Asphalt Co., Barber, N. J.; F. V. Widger, Texas Co., New York; J. S. Helm, Standard Oil Co. of New Jersey, New York; David Waxman, Shell Oil Co., Inc., New York; G. R. Christie, Socony-Vacuum Oil Co., Inc., New York; Herschel Smith, Mexican Petroleum Corp., New York.

On fuel oil: J. W. Scott (ex officio), Buckley & Scott Utilities, Inc., Watertown, Mass.; J. C. Connolly, Standard Oil Co. of New Jersey, New York; L. B. Fox, Socony-Vacuum Oil Co., Inc., New York; J. J. Mulvey, Atlantic Refining Co., Philadelphia, Pa.; H. B. Van Cleve, 500 Fifth Avenue, New York; H. H. Fuller, Consolidated Oil Corp., New York; R. Bartlett, Gulf Refining Co., Pittsburgh, Pa.; Gene Collis, Petrol Corp., Philadelphia, Pa.

On advertising: L. T. Kittinger (chairman), Shell Oil Co., Inc., New York; W. L. Faust, Socony-Vacuum Oil Co., Inc., New York; J. A. Miller, Standard Oil Co. of New Jersey, New York; Harold L. Curtis, Shell Oil Co., Inc., New York; Eben Griffiths, Socony-Vacuum Oil Co., Inc., New York; S. M. Birch, Texas Co., New York.

CALENDAR OF EVENTS

September

PACIFIC COAST GAS ASSOCIATION, annual convention, Del Monte, Calif., September 10-13.

NATIONAL PETROLEUM ASSOCIATION, thirty-ninth annual meeting, Hotel Traymore, Atlantic City, N. J., September 17-19.

SOCIETY OF AUTOMOTIVE ENGINEERS, national tractor meeting, Schroeder Hotel, Milwaukee, Wis., September 25-26.

NATIONAL LUBRICATING GREASE INSTITUTE, ninth annual meeting, Stevens Hotel, Chicago, September 29-30.

October

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual convention, Clarksburg, W. Va., October 2-3.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Allis Hotel, Wichita, Kans., October 3.

NATIONAL FOREIGN TRADE CONVENTION, twenty-eighth meeting, Hotel Pennsylvania, New York City, October 6-8.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 6-9.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, twenty-second annual convention, Beaumont, Tex., October 9-11.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, fall convention and old-timers' gathering, Hotel Severin, Indianapolis, Ind., October 14-15.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, Pacific section, Los Angeles, Calif., October 16-17.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Dallas, Tex., October 16-18.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Washington-Youree Hotel, Shreveport, La., October 17.

NATIONAL STRIPPER WELL ASSOCIATION, Tulsa, October 20.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, twelfth annual meeting, Tulsa, October 20-21-22.

SOCIETY OF AUTOMOTIVE ENGINEERS, national fuels and lubricants meeting, Mayo Hotel, Tulsa, October 23-24.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Southern California Section, Los Angeles, Calif., October 29-30.

SOCIETY OF AUTOMOTIVE ENGINEERS, national aircraft production meeting, Biltmore Hotel, Los Angeles, Calif., October 30-November 1.

CALIFORNIA NATURAL GASOLINE ASSOCIATION, Los Angeles, Calif., October 31

November

AMERICAN PETROLEUM INSTITUTE, twenty-second annual meeting, St. Francis and Palace Hotels, San Francisco, Calif., November 3-7.

SOCIETY OF AUTOMOTIVE ENGINEERS, West Coast transportation and maintenance meeting, San Francisco, Calif., November 5-6.

SOCIETY OF AUTOMOTIVE ENGINEERS, national transportation and maintenance meeting, Statler Hotel, Cleveland, Ohio, November 13-14.

Oil wells in the Pennsylvania Grade country are not nearly so deep as they are in the west, and so permanent derricks are not required for later cleaning and pump-repairing operations. In this view a diesel crawler tractor is about to raise the mast of a new rig by means of a two-speed winch equipped with 250 ft. of ¾-in. line. Tractors in the Alleghany and Bradford fields are generally equipped with winches which also serve well in the tight places when moving heavy equipment up and down mountain sides and for pulling rods and tubing out of wells to clean them and repair the pumps

ENGINEERING & OPERATION

In This Section

SEPTEMBER 11, 1941

NEUTRON WELL LOGGING: A NEW GEOLOGICAL METHOD
By Bruno Pontecorvo ..... Page 32
A new geological tool, involving a neutron source and an ionization chamber, has been developed for logging wells, either in cased or uncased holes. Remarkable detail is evidenced in the logs, which show very good correlating power and give considerable new information. The equipment is very much the same as for radioactivity well logging.

ACTIVE FAULT BELIEVED CAUSE OF FISHING JOB IN BALDWIN HILLS
By T. P. Sanders ..... Page 35
In the Baldwin Hills field of California, the torque on a well drilling at 8,188 ft. rapidly built up and the drill pipe came to a standstill while the bit was on bottom. The resulting fishing job brought to the surface an 8-in. drill collar so badly bent that it could not be rerun in the hole. Cause of the fishing job was thought to be an active fault.

DEVELOPMENTS IN PIPE-LINE CONSTRUCTION METHODS
By B. M. Laulhere, Jr. ..... Page 39
In the construction of pipe lines, much progress has been made in both the methods employed and equipment used. Here these developments are reviewed, and discussions given of present methods of pipe bending, pipe laying and joining, pipe treating and of laying lines in wet earth.

GEOLOGICAL AND GEOPHYSICAL PROFILES THROUGH EOLA FIELD, LOUISIANA
By W. P. Jenny ..... Page 42
In drilling along the Sparta-Wilcox trend of Louisiana, the idea prevails that Cockfield wells should be of significance in appraising deeper structural possibilities. Results of studies made in the Eola field indicate that too much weight should not be placed upon a few scattered normal or almost normal Cockfield wells.

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Neutron Well Logging

A New Geological Method Based on Nuclear Physics

By BRUNO PONTECORVO
Research Physicist, Well Surveys, Inc., Tulsa

Preliminary discussion of a new well-logging process adapted for use in cased or uncased wells. The process involves a neutron source and an ionization chamber. Remarkable detail is evidenced in the logs, which show very good correlating power and give considerable new information, in the examples studied. The equipment is very much the same as for radioactivity well logging.

SINCE April 1940, when radioactivity well logging was offered to the trade by Well Surveys, Inc., the laboratories of the company have been engaged in continuing the search for new curves. The development of an additional parameter has fortunately become possible at a time when the commercial experiences in the United States and in South America have shed considerable light on the usefulness of radioactivity well logging. A second curve should necessarily operate independently of casing and possess the detailed correlating power of the radioactivity log, and, above all, should add some new information. At the time of this writing, the initial field trials have been completed on a new process, neutron well logging, which appears to fulfill the foregoing requirements.

The well-logging instrument consists of a strong neutron source (radium plus beryllium) and an ionization chamber, so arranged that the ionization chamber is considerably shielded from the rays coming directly from the source (Fig. 1). As a consequence of the interaction of the primary rays from the source with the surrounding formations, the indication furnished by the ionization chamber varies with the properties of the strata. What radiations do come through the shield directly from the source are a constant amount throughout the log. The present experimental subsurface instrument is a single cylindrical unit, similar to the one used for radioactivity logging. The maximum outside diameter of the present experimental instrument is 5½ in. The total length of the subsurface instrument including the amplifier and the power supply is 7 ft.

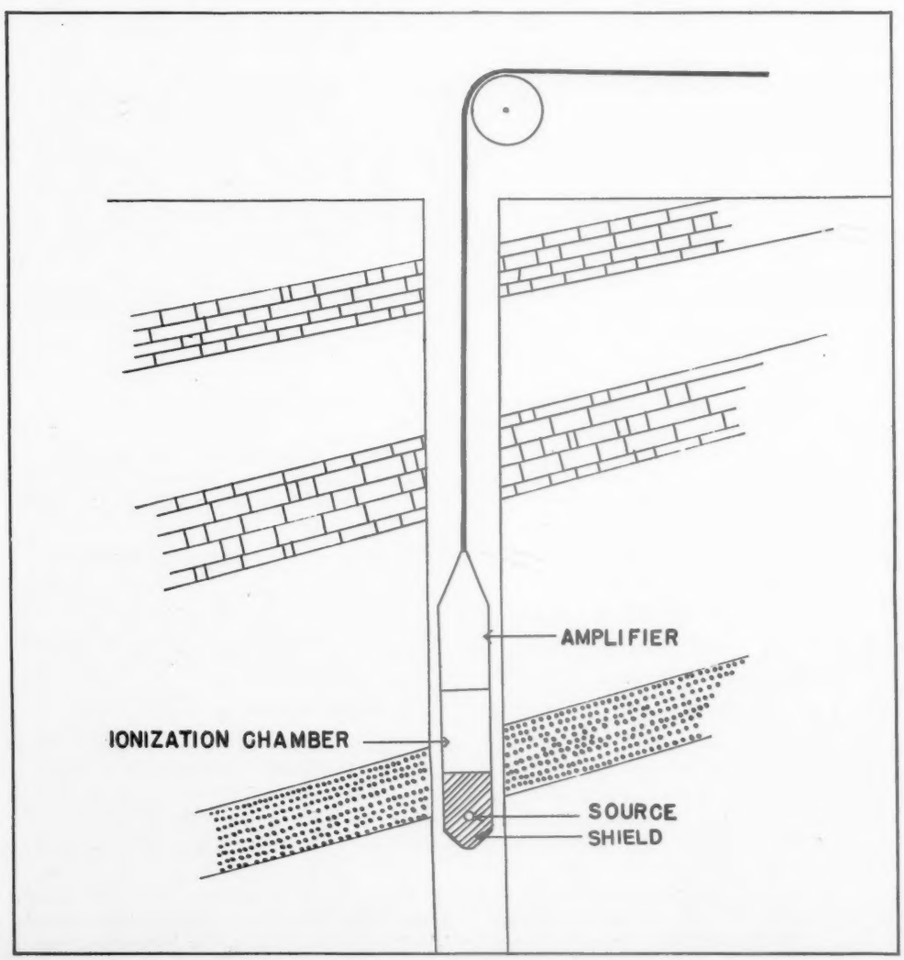


Fig. 1—Diagram showing the arrangement of the various components of the subsurface equipment with respect to the neutron source

The curves shown in Fig. 2 give good correlations, as can be seen. It is likely that the new curve will add enough new information to make possible the distinction of many types of strata which, hitherto, could not be recognized. Particularly, it is hoped that the new curve will:

1. Distinguish limestones from sandstones.
2. Distinguish more easily from shale the various rock types which consist of other materials mingled with shale.
3. Enable new and useful correlation horizons to be found in shales.
4. Enable some information to be gathered, by comparison, which will help in regard to the fluid content problem.

It seems at present that the neutron logs may be very valuable in areas where the producing formations are limestones and dolomites. In general, the neutron curves give geologists a new tool to work with, which may be applied equally well to old or new wells. It is certain that the neutron well-logging method is able to log in cased and uncased holes alike with comparable results, and that the logs are characterized by deep penetration. It is also certain that valuable logs can be made in areas of salt beds, such as West Texas and western Kansas, and in places where the various electrical-logging methods fail.

Because the strength of the neutron source can be made quite large, the surveying speed which may be realized with the new method is very great, fully comparable with the speeds used for electrical logging. As a result of the large intensity involved, it is possible to make the measurements in a manner which is very little influenced by drifts and temperature disturbances.

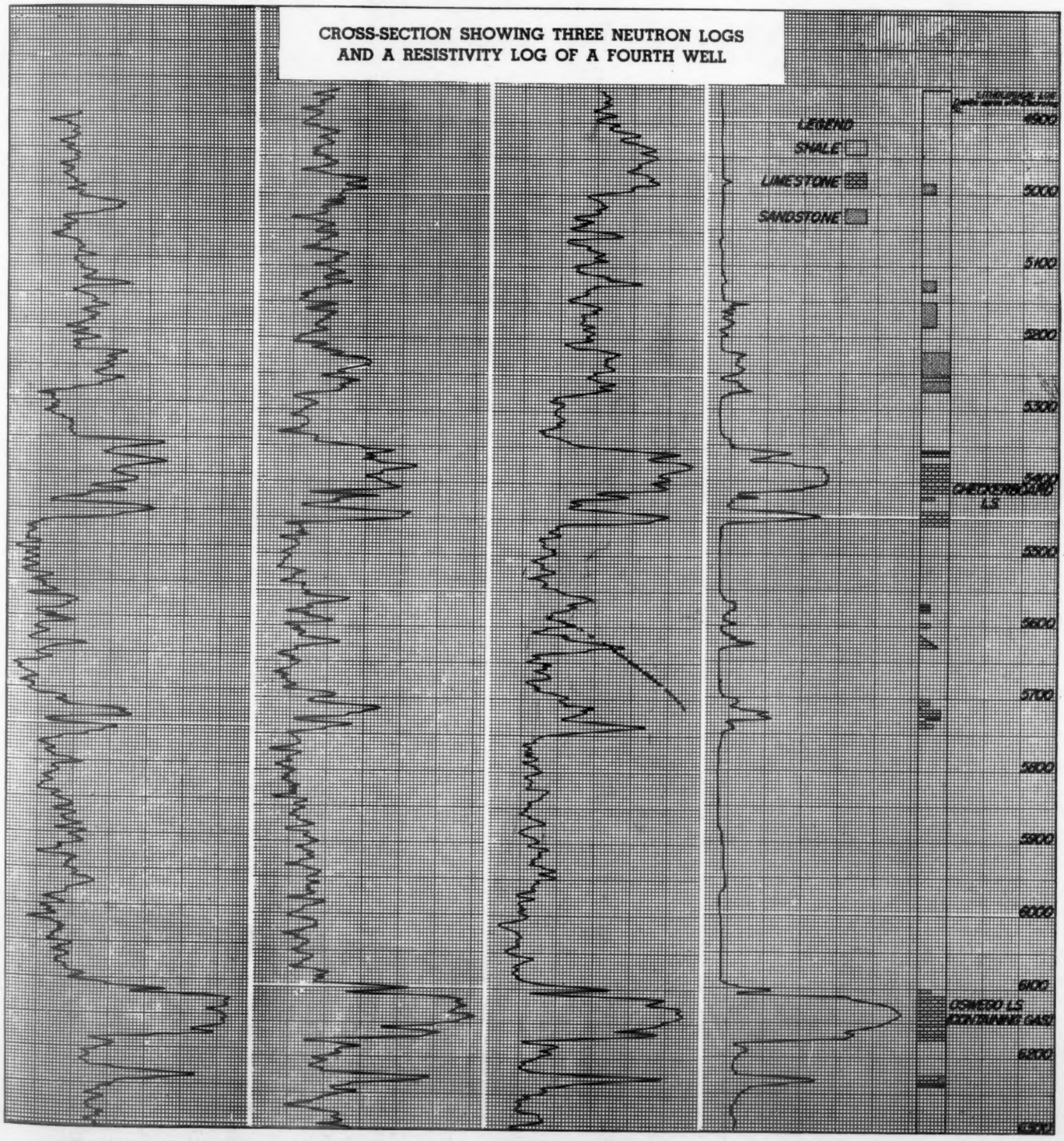
The neutron curve is entirely different from the radioactivity curve. The gamma rays emitted by the radioactive elements present in small quantities in the formation, which are measured in the radioactivity well-logging process, have a completely negligible effect in the neutron method.

The field studies of the new curve are progressing rapidly, as are laboratory studies designed to improve the interpretation. Since the process is adapted to the use of the standard field equipment now being employed in commercial radioactivity well logging by licensees of Well Surveys, Inc., the field tests can be conducted very easily, and automatic records are obtained in the same manner as for the radioactivity logs. If favorable results continue, the new process will be offered to the trade shortly.

Acknowledgment

The author gratefully acknowledges the cooperation of the Lane-Wells Co. for the use of its equipment and personnel in carrying out the recent field tests, the results of which appear in this paper. The author also acknowledges the assistance of the engineering staff and the management of Well Surveys, Inc., who have made this work possible.

Fig. 2—Section about ½ mile long in the Oklahoma City pool, showing the correlation of neutron logs obtained through the casing and cement, and the comparison of the neutron logs with the resistivity curve of an adjoining well, made in open hole. Note the striking resemblance of the neutron curve to the resistivity curve, the great distinctness with which the geologic formations stand out, and the remarkable manner in which the details of the lithology correlate between one neutron log and another. The depths shown are for the resistivity curve at the right. The neutron logs are adjusted so that the top of the Oswego limestone in all three neutron logs is level with the top of the Oswego in the resistivity log



NOT A GUINEA P
ENGINE..
the

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ZC PUMPING ENGINE
is past the experimental stage

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Economy and Service are truly built into this engine — the sealed tight crankcase keeps oil cleaner and gives it longer life. Extra heavy flywheels make for smoother power by absorbing the shock of engine explosions and storing the energy to meet the cyclical load demands — minimizing wear and tear on equipment and eliminating "Cable Tooling" of sucker rods.

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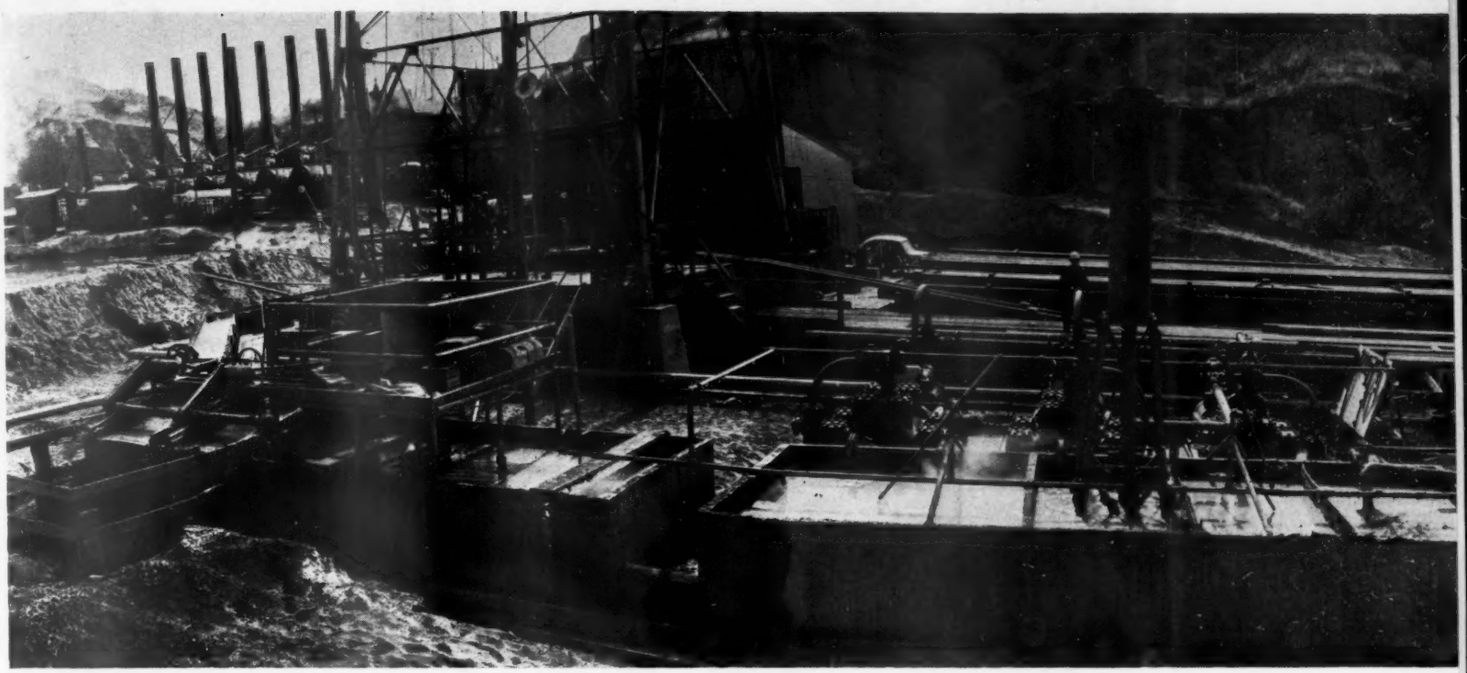

Rig used by Rocky Mountain Drilling Co. in the Baldwin Hills field. For removing gas from the drilling mud, the equipment pictured at the right is used. A steam jet places a vacuum on the mud as it passes through the vertical pipe

Active Fault Believed Cause of Fishing Job in Baldwin Hills

By T. P. SANDERS

At a well being drilled in the Baldwin Hills field of California, torque rapidly built up and the pipe suddenly came to a standstill while the bit was on bottom at a depth of 8,188 ft. The resulting fishing job brought to the surface the 8-in. drill collar so badly bent that it could not be placed back in the hole. Cause of the fishing job was thought to be an active fault.

THE Baldwin Hills field is situated on the Inglewood uplift, a zone of structural weakness marked by nine oil fields, northernmost of which is Beverly Hills while the southernmost is Newport. Much evidence of past faulting is found throughout the length of this structural trend, and most of the earthquakes in southern California's history have been attributed to this zone of weakness.

Evidence is growing to show that at the great depths reached by recent drilling in the Baldwin Hills field there is at least one active fault, probably exhibiting slow, continuous movement. Three drill strings have been seized while penetrating the same shale body at different points in the field, and in the last such instance a difficult but successful fishing job brought to the surface a heavy 8-in. drill collar so badly bent that it could not be placed back in the hole.

Faults of continuous activity are not unknown in California, and it is probable that many exist that have never been noticed. The classic example is found in the Buena Vista Hills field where more than 20 wells have ceased production because slow but steady movement along the plane of active thrust fault has collapsed or sheared casing and tubing and finally seized the sucker rods. Some wells, having crossed the fault plane at shallow depths, have been kept producing by digging shafts around the casing down to the depth of movement. Since the strata above the fault slide over the strata below at the rate of about 1½ in. per year, the wells of this area were able to produce for many years before the active fault was noticed.

Deepest Drilling Contracts

The latest incident of stuck drill pipe in the Baldwin Hills field occurred at R. R. Bush Oil Co. 1 Smith, which was drilled by Rocky Mountain Drilling Co. Last year this contracting firm was awarded the deepest drilling contracts ever written, and under the terms of these agreements three 13,130-ft. wells were drilled in the record-breaking total time of 99 drilling days. The same type equipment that performed this remarkable drilling feat on Standard Oil Co. of California's Mushrush lease in the Wasco field was used for the Baldwin Hills drilling.

In drilling the Bush well all went according to plan until a depth of 8,188 ft. was reached on June 15. At that depth torque on the rotary table built up rapidly and the pipe suddenly came to a standstill while on bottom. After 8 hours of working the drill stem, crude oil was spotted around the bit. Every 30 minutes the fluid column was moved while the drillers continued to work the pipe. This measure, usually successful, failed to accomplish noticeable results, so preparations were made to run an inside cutter on 1¼-in. drill pipe to sever the stem above the drill collar.

The 4½-in. drill pipe was cut at 7,957 ft., leaving 231 ft. of the string in the hole, including six 30-ft. 8-in. o.d. drill collars and an 11-in. bit. Reaming was necessary before the 9⅝-in. washover string could be run, but after the fish was reached, little difficulty was had in washing down to 8,176 ft., which was only 12 ft. off bottom. At this point, however, progress ceased, so the washover string was withdrawn, the mud was reconditioned, and an overshot was run. In spite of the fact that all but 12 ft. of the fish had been freed, jarring only resulted in breaking the drill pipe on top of the fish.

Realizing how tightly the fish must be held, the operators again ran the washover string, this

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time using a special shoe. Although this shoe reached a point only 9 ft. off bottom, jarring still failed to move the fish.

The next step was to replace the washover shoe with a mill, since it was believed that the washover shoe must have reached the bit. After extensive milling, the tool progressed about 1 ft. A special preparation of oil-base drilling mud was pumped down the washover string and spotted around the mill. This fluid, patented by Shell Oil Co., Inc., consisted of a prepared oil, mica, lamp black, and pulverized lime. With this preparation in the hole jarring was carried on for some time without success.

Recovering Fish

The wash pipe and milling shoe were again run, and milling was carried on for a day. A thin solution of Aquagel was then spotted around the mill, and after 6 hours of steady jarring, the fish was dislodged. Difficulty was encountered in bringing the fish to the surface, as it dragged heavily all the way. When it appeared at the derrick floor the crews were surprised to see a kink in the bottom drill collar 10 ft. above the bit.

Since the heavy steel drill collars had a wall thickness of nearly 3 in., earth movement was the only force which the imagination could suggest of great enough magnitude to kink the collar while the string was on bottom. (Several men, including the engineer for R. R. Bush Oil Co., witnessed the sudden sticking of the pipe while hole was being made.) The milling shoe had never reached the bit but had drilled away some of the drill collar at the kink. Had the contractors suspected the condition of the fish, no attempt would have been made to recover it, because it would have been considered virtually impossible. However, since the job succeeded in recovering six drill collars that probably could not be replaced today, it was well worth while.

In all, the recovery required 28 days, but it furnished fairly convincing evidence that earth movement exists as a possible source of trouble in at least one field. The hole was reamed to bottom before deeper drilling was attempted and no further trouble occurred in completing the contract.

The other two cases in which drill collars stuck in deep Baldwin Hills wells resulted in sidetracking, since the fish could not be recovered. It will be interesting to notice whether or not future trouble occurs in the Baldwin Hills field which indicates active fault movement.

At one time the successful outcome of the job was threatened by the shoe of the surface casing, which had been damaged or broken off so that the washover string would not pass. The difficulty was overcome by placing a column of cement in the hole at the shoe and reaming out with a long tapered mill. The cement left in the hole gave support to the shoe. Six days were spent in making this repair.

Rocky Mountain Drilling Co. is headquartered in Los Angeles and is directed by Dorsey E. Straitiff, president and general manager; W. W. Cline, vice president; Harry T. Straitiff, vice president, and C. J. Gibson, drilling superintendent. Louis A. Whipple, Jr., was the tool pusher on the Bush well. All officers of the company agree that the fishing job described above was the most difficult encountered in 18 years of oil-well drilling. It may be the first time that 9⅝-in. washover pipe has been used in an 11-in. hole to free 8-in. drill collars, and it is certain that this is the first time such a feat has been accomplished at a depth of more than 8,000 ft. in the loosely consolidated strata of California.

●

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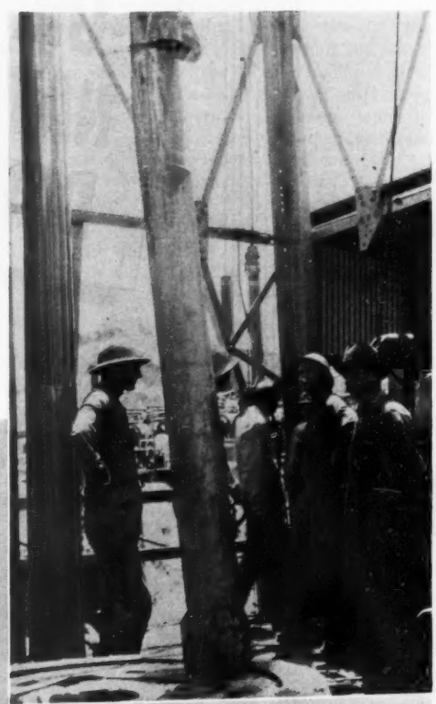
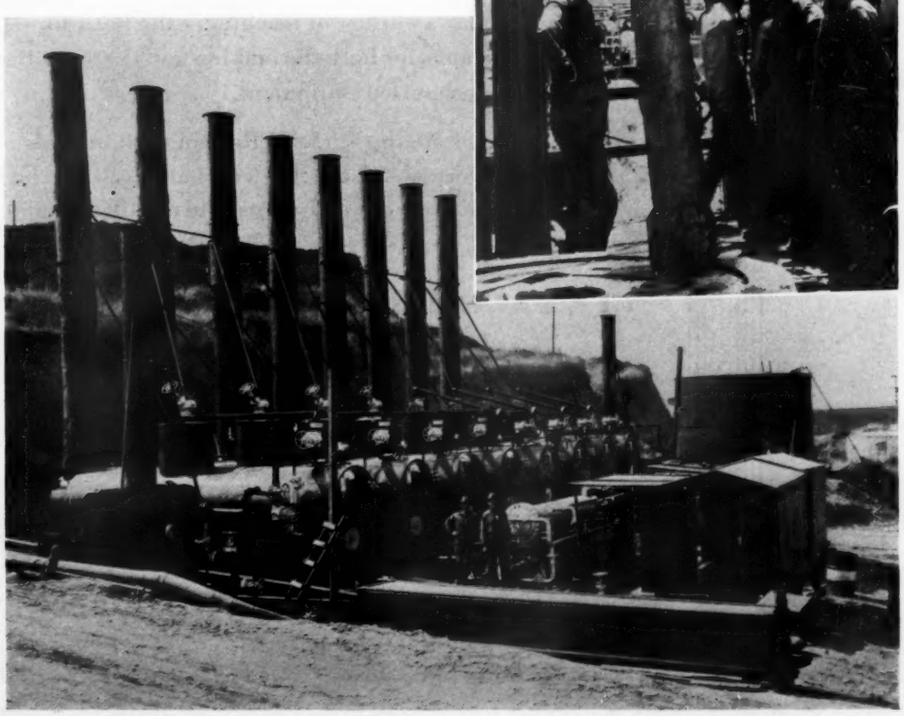
Above: A 12 by 12-in. vertical steam engine is used for an individual rotary-table drive at the Rocky Mountain company rig. Right: After obtaining contracts from two different companies to drill two offset locations in Baldwin Hills, the two boiler plants shown here were set up side by side

Below: Eight-inch drill collar kinked while drilling on bottom in the Baldwin Hills field. It is believed that only movement along an active fault could have caused this fishing job. Milling caused the cutaway portion seen in the kinked drill collar





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Developments in Pipe-Line Construction Methods

By B. M. LAULHERE, JR.
Macco-Robertson Co.*

THE increase in speed and quality of pipe-line construction has come about through the vast experience obtained during the past century. The magnitude of this change is readily noted in the fact that the city council of Marietta, Ohio, in 1856 allowed the gas company 4 years to build 2 miles of pipe line. With present-day methods and equipment, it is possible to install several hundred miles of pipe line in a single summer. The Ohio pipe line was constructed of white pine which was cut in lengths of from 2 to 8 ft., depending on the soundness of the timber. The timbers were turned to an outside diameter of 6 in. and bored to 2 in. inside diameter. The bore was enlarged to 4 in. on one end and the outside of the other end reduced to 4 in. so that joints could be made by driving one pipe into another.[1]

Right-of-Way

The right-of-way has always been of foremost consideration on pipe-line jobs. Normally a company will seek the shortest possible route for transmission lines along which rights-of-way can be obtained economically. Frequently rough country is encountered and the cost of clearing the right-of-way is high. The owner of a pipe line decides whether to blast his way through rough country or to take an easier and longer route by comparing the construction costs on the two routes plus the cost of the additional pipe on the longer route. The maintenance and operation of the pipe line also plays an important part in the selection of the right-of-way.

The early pipe lines were constructed on the longer and flatter rights-of-way whenever possible. This was due to the fact that the pipe and joints were rigid and could not be bent to conform to rough terrains. The wooden line for the Bloomfield and Rochester Natural Gas Light Co. required a 10-ft. ditch in many places because the constructors could not bend the pipe.

With the advent of wrought iron and steel pipe, it became possible to bend the pipe, and the necessity for deep trenches and direct alignments was minimized. Consequently it became easier to construct lines to conform to rougher country. This led to the introduction of heavy right-of-way equipment into pipe-line construction. Large bulldozer tractors, such as those with 130-hp. diesel motors, can cut a swath over extremely rough terrain. Tractors with powerful sidebooms are used to pull out big trees. The larger sidebooms have a lifting capacity as high as 30 tons. The bulldozers usually cut a minimum right-of-way of 25 ft. for the construction operations. These bulldozers can make cuts and fills over rough country and thus reduce the number of "pockets" in the line.

From the standpoint of production, no single operation in pipe-line construction has received more consideration than that of ditching. The majority of pipe-line superintendents and foremen will say, "Give us the ditch and we'll give you the line." With present-day trenching machines, it is possible to minimize the ditching operation as a "bottleneck."

Wet Excavations

Pipe-line constructors are frequently confronted with the problem of installing a pipe line in wet or saturated earth. These wet excavations which occur at rivers, washes and other places where the water table is high, require special attention on the part of the constructor. Wet excavations are generally handled by either the open-cut method or the sheet-piling method. However, an improved system of predrainage has been developed with the use of well points.

In the open-cut method a drag line or clam shell is used to remove the earth and the trench sides are sloped properly to minimize caving. Pumps are used to keep the water level down and in crossing rivers or streams, water is dammed or bypassed to prevent running water from entering the excavation. Of course, reference is made here to a river crossing with underground water and only a small amount of surface water. Pipe-line crossings of navigable rivers present entirely different problems. The open-cut method for wet excavations is not satisfactory for deep trenches, as it is necessary to move too much dirt unless the banks stand up in spite of the presence of water. Sheeting and bracing are required in open-cut trenches at intervals as specified by the Industrial Accident Commission.

*Paper to be presented before the transmission committee of the Pacific Coast Gas Association at the fall meeting, Sept. 10-13, 1941, at Del Monte, Calif.

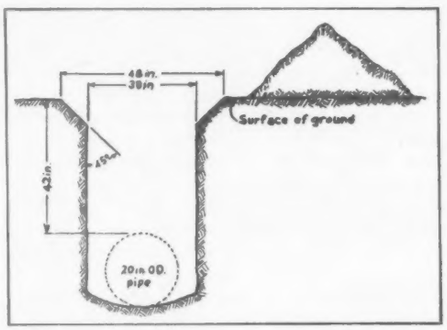
[1]Ewing, Scott, Soil Corrosion and Pipe-Line Protection, William J. Roth, New York, 1938, p. 4.

Vacuum pump used to drain water from ground through well points

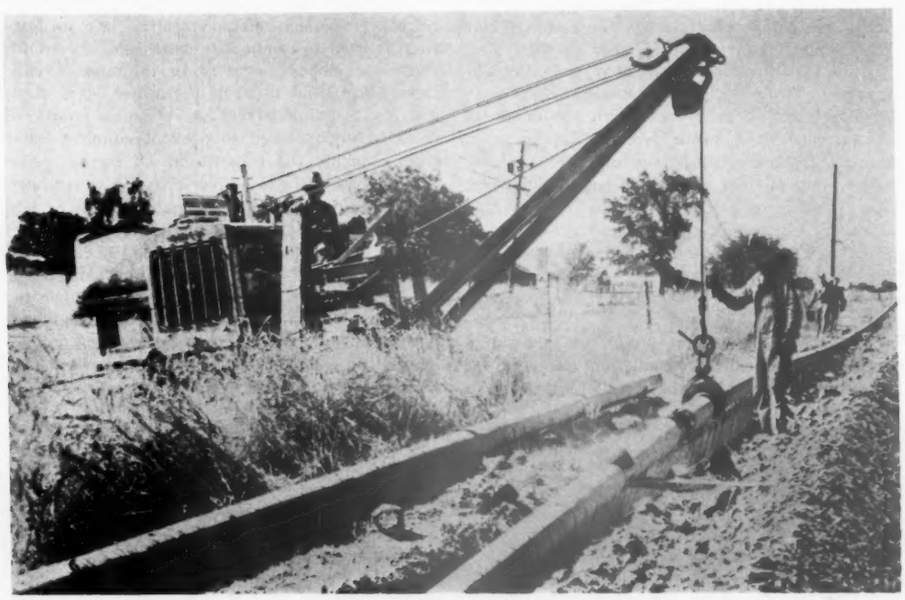
Well points connected to header line at a wet excavation job

The sheet-piling method is used to exclude running material from the trench. Wooden or metal piles are placed tightly together by a crane with leads and hammer, by an air hammer or by a sledge hammer. This method is quite expensive as it involves the use of timber or metal and the cost of placing the same. The tight-sheeting system is used when the soil is such as to preclude the possibility of the open-cut method. Pumps, of course, are required to dewater the ditch as the sheeting is placed. Although the sheeting material and placing costs are high, the amount of excavation work is reduced as compared to the open-cut method and hence the actual excavation cost is lower.

This company recently had an opportunity to compare the tight-sheeting method for wet excavation with an improved open-cut method. We were called upon to replace approximately 50 ft. of 18-in. vitrified clay pipe at a location between Artesia and Bellflower, in southern California. Water was encountered at a depth of 4½ ft., the water table being abnormally high due to the heavy rainfall. The pipe had a cover of approxi-



Below: Tractor with sideboom capable of a maximum lift of 17,500 lb. Note the automatic-release pipe tongs which are being used in this lowering operation. Right: Diagram of a beveled ditch for minimizing caving



mately 6 ft. and every effort was made to excavate around the pipe without the use of sheet piling. However, the soil was sandy and caved in as fast as it was excavated. The continual caving made it necessary to use tight sheeting to prevent undermining of the adjacent road. Also double diaphragm pumps were used continually to dewater the ditch. About 2 weeks after completion of this work, an adjoining 50-ft. section of the same line failed and needed to be replaced. It was decided to try the well-point method developed by the Moretrench Corp. of New York on this section as an experiment to eliminate sheeting.

In the well-point method, one of the main parts of the system is the well point, which consists of a pipe, the lower end of which is screened to permit the flow of water. The water is drawn by vacuum through the screen opening. The well points are so constructed with a ball and ring valve that they can be used first as jetting pipes, then as the conductors or pipes for the water which is to be withdrawn. The well points are driven or jetted on one or both sides of the trench. After being placed in position, the well points are connected to a header which in turn is connected to a vacuum pump. The number of well points on any job depends upon the amount of water to be removed and the type of soil from which the water is to be removed. In the job under consideration, 25 well points were used, being hooked up to the main pipe header at 4-ft. intervals.

With only 25 well points hooked up, water was discharged at the rate of 60 g.p.m. continuously for 4 days and nights and the water table was lowered 3 ft., permitting all work to be carried out under dry conditions. Caving did not occur and the necessity of sheeting was eliminated.

This experience showed that well points can be used to advantage even on a short job. The saving in lumber for sheeting offset the rental cost of the well-point system on this job so that the costs were almost identical for the sheeting and well-point method. However, with a greater footage, the well-point installation would have shown a saving over the sheeting installation. The well-point system of predrainage has proven itself on many types of jobs and will probably receive more consideration on future wet excavations in connection with pipe-line construction.

Pipe Laying and Jointing

The pipe-line constructor's spread of equipment has constantly grown in order to keep pace with the never ending changes in pipe and pipe joints. The early-day wooden, cast iron, wrought iron, and steel pipes were manufactured in short lengths of from 2 to 10 ft. These short lengths were usually installed by hand methods. Pipe manufacturers gradually made longer pipe joints and now the standard pipe length for most transmission pipe lines is 40 ft. In special cases, pipe joints exceeding 40 ft. have been used. Twenty-seven miles of 26-in. pipe line in 60-ft. joints (double 30-ft. joints) was installed for a large Pacific Coast gas company in 1931. The longer pipe joints gradually brought about changes and improvements in pipe-handling equipment.

Tripods and large gangs of men were used in the construction of all types of screw and coupled lines prior to the development of welding and longer pipe joints. These developments, plus increased cost for labor and the need for greater production, led to the development of the tractor for handling pipe.

Pipe Bending

The early-day pipe lines were seldom bent due to the rigid joint connections. Our present pipe and pipe joints lend themselves to bending because of increased flexibility.

Prior to the development of factory bends, angles in both screw and welded lines were made by means of fire bends. This method consisted of building a fire along the right-of-way at the point of angularity to heat the pipe. When the pipe reached the proper temperature, the line was bent to the desired degree on angularity by means of tractors or other equipment. In recent years another method has been used for bending the pipe cold, but this method has the disadvantage that the degree of angularity to which the pipe can be bent is much less than in the case of fire bends, particularly in the case of large-diameter pipes. However, heavier bending equipment and special bending shoes are enabling some contractors to bend pipe successfully without application of heat.

One of the recent and interesting developments in the field of pipe-line construction during late years is the improvement in the practice of "wrinkle bending." Wrinkle bending consists in the heating with the oxyacetylene flame one or more narrow bands at right angles to the pipe and extending about halfway around the pipe. The pipe is then bent either by hand or by means of a tractor or bending rig until the heated section buckles sufficiently to give the pipe the desired curvature. Wrinkle bending is a modification of the crease bend or corrugated tangent which has for some years been in use in the fabrication of steam power-plant piping. The wrinkle bend may be applied to any sag bend, overbend, or side bend, thereby replacing the conventional "cold" bend or "fire" bend that at one time was standard practice.

Good practice would seem to indicate that a 5° bend per wrinkle is a maximum and that 2° to 3° per wrinkle is better. The number of wrinkles indicated, therefore, is predetermined by the total degree of bend required. At no time during the process of making the bend, or afterward, should the pipe be artificially cooled or quenched. If possible, the spacing of the wrinkles should be at least one pipe diameter apart.

Pipe Treating

The problem of mitigating corrosion of pipe lines has received much consideration for some years.

Before any good application of material can be made, it is necessary to clean the pipe thoroughly. The traveling-type cleaning machine now available for over-the-trench work has a small gasoline engine so mounted on knurled wheels that it propels itself and the cleaning apparatus along the pipe. The engine is connected to and rotates a frame holding rings of small circular cutting tools and steel wire brushes which contact the

(Continued on Page 44)

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Geological and Geophysical Profiles Through the Eola Field, Louisiana

By W. P. JENNY
Consulting Geologist and Geophysicist

Results of a study show that while extremely high or low Cockfield wells may have some bearing on Wilcox structures, too much weight should not be placed on Cockfield wells in appraising deeper structures.

IT is general knowledge by now that large unconformities may occur between the Wilcox and Cockfield on structures along the Sparta-Wilcox trend of Texas and Louisiana. Yet the idea still prevails that Cockfield wells, drilled within the general area of a geophysical prospect, should somehow be of significance in judging the correctness of the geophysical information, or that the apparent regularity of scattered Cockfield wells should offer sufficient proof of similar conditions in the lower beds.

While it is reasonable to assume that extremely high or low Cockfield wells must have some bearing on Wilcox structures, or that Wilcox structures, sufficiently drilled up, will reveal some structural expression also in the Cockfield, it appears extremely risky to put too much weight upon a few scattered normal or almost normal Cockfield wells, in appraising the deeper structural possibilities.

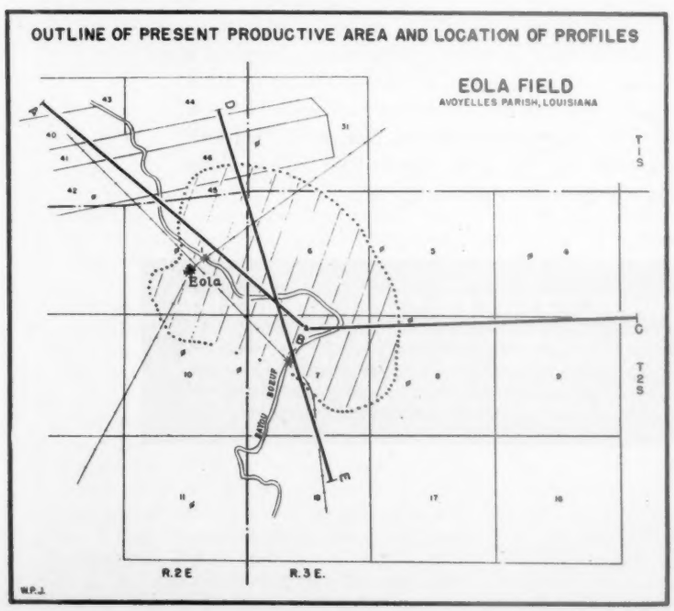
This point is elucidated by the study of a north-south (*D, E*) and a west-east (*A, B, C*) cross-section through the heart of the Eola structure (Fig. 1). The Cockfield, Wilcox and reflection profiles are based on the respective contour maps contained in Bates' paper (F. W. Bates, Geology of Eola Field, Avoyelles Parish, Louisiana, Bulletin of American Association of Petroleum Geologists, July 1941); the micromagnetic profile has been published by the writer (W. P. Jenny, Some Practical Examples of Micromagnetic Prospecting, The Oil and Gas Journal, April 25, 1940).

For all practical purposes the north-south Cockfield profile in Fig. 2 indicates a continuous regional dip of 120 ft. per mile, even though the Cockfield formation lies above a faulted Wilcox structure with an uplift of 300 ft., as indicated by the lower profile. The large Wilcox fault and uplift are suggested in the Cockfield profile, but any number of Cockfield wells drilled along this profile would have failed to reflect the details of the deeper structure.

The continuous west-east Cockfield profile in Fig. 3 gives a good indication of structure in its eastern portion, though two or three wells drilled at random along this profile might easily have given the impression of a continued regional dip throughout the whole profile.

The reflection profile gives a fair impression of the general Wilcox structure, even though the reflection profile indicates only some 100 ft. of closure and does not fully agree with the detailed Wilcox structure. This discrepancy may be explained, first, by the intricate fault pattern of this structure, and second, by a possible lateral change in the over-all velocities, due to the increasing interval between the Cockfield and Wilcox towards the north and west. In spite of its shortcomings, the reflection survey was sufficiently encouraging to warrant a test, which led to the discovery of the field.

The micromagnetic profile was surveyed a few days after the discovery of the field and thus represents a prediction only as to shape and size of the structure. Since it was known from other



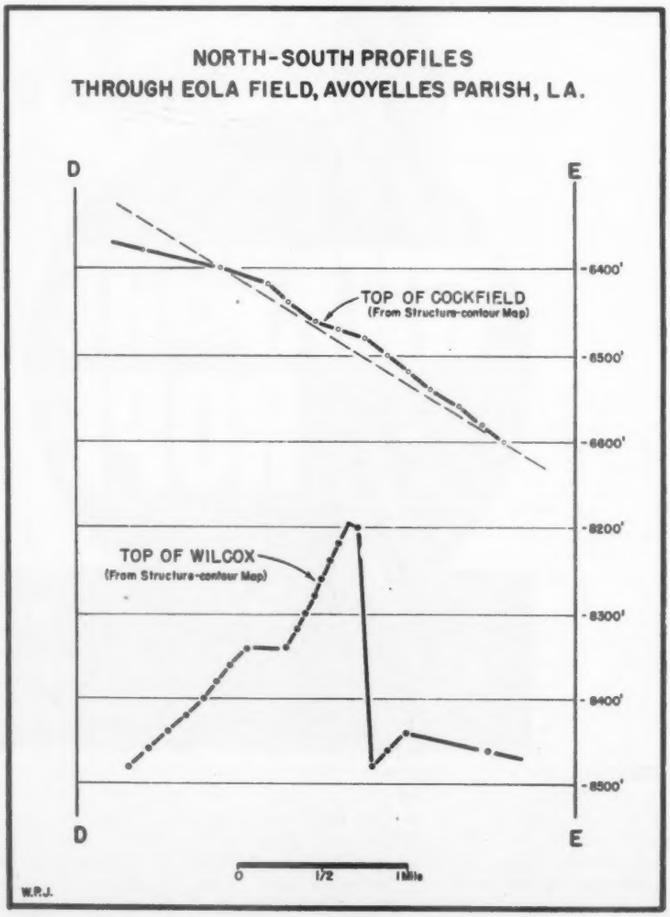


Fig. 1 (below) Plat showing outline of present productive area and location of profiles in the Eola field. Fig. 2 (right)—North-south profiles through the field, showing that while the Wilcox fault and uplift are slightly indicated in the Cockfield profile, most wells would fail to indicate the deeper structure

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experiences that 1 gamma corresponds to 30 ft. on local structures along the Sparta-Wilcox trend, some 300 ft. of local closure could be assumed for the Wilcox structure on the strength of the micromagnetic profile.

The close agreement of the micromagnetic profile with the Wilcox profile in Fig. 3 should offer concrete proof that the magnetic anomaly must be caused by Wilcox or only slightly higher beds, especially if we also consider the great unconformity between the Wilcox and the Cockfield.

Similar unconformities between the Wilcox and the Cockfield are also reported on other structures in the Sparta-Wilcox belt, and such unconformities seem to be the rule rather than the exception. Since considerable unconformities are proven on local structures, there is every reason to assume that large unconformities may also exist on regional structures in this belt. The large positive and negative regional magnetic trends observed in this belt may indicate anticlinal and synclinal regional trends in the Wilcox below a normal Cockfield. Such deep regional structures may then in turn produce rapid lateral changes in seismic velocities, which would seriously influence the seismic interpretation (see: W. S. Olson, Seismic Velocity Variations in San Joaquin Valley, California Bulletin of A.A.P.G., July 1941).

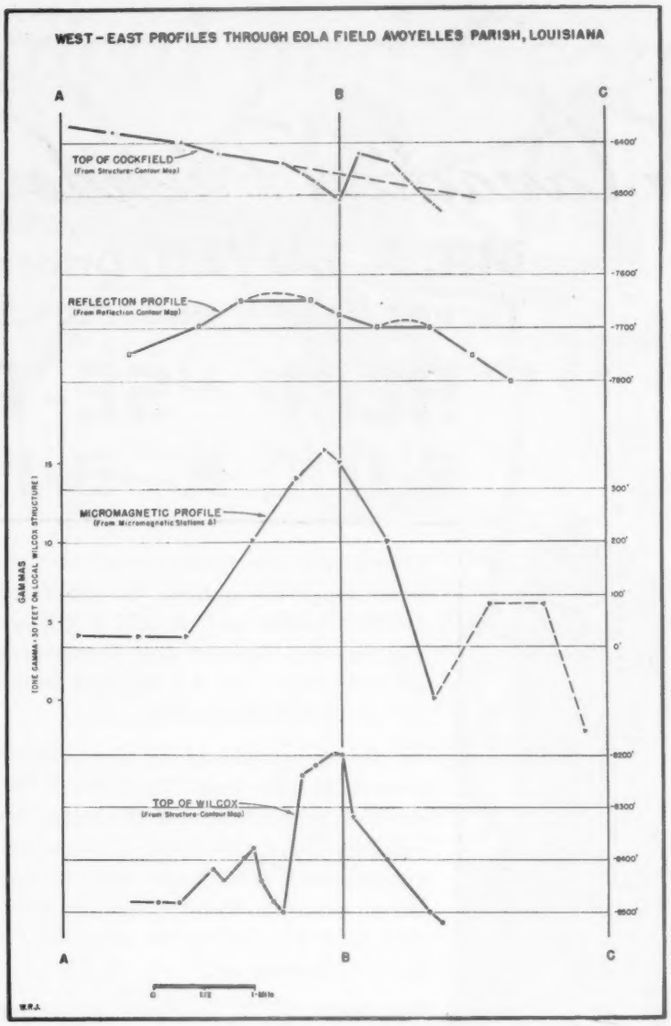


Fig. 3—East-west profiles through the Eola field

in the field of pipe-line construction. The resourcefulness and ingenuity of pipe liners has also been responsible for many improvements in the details of the various operations. Nearly every job brings forth some new idea or "gadget" to facilitate the production or quality of the work. A good pipe-line foreman can stimulate his crew to a keen interest in the project and thus secure valuable ideas from the man in the ditch. Pipe liners have contributed many time-saving and quality-improving techniques during the construction of all types of lines under different conditions. Several improvements in technique are mentioned here.

A beveled trench to minimize caving was provided for the pipe line of the Natural Gas Co. of America to Milwaukee, Wis. The soil on this job caved easily and made it difficult to dig a firm pipe-line trench. To offset the tendency of the ditch to cave, the ditching machine was equipped with cutting blades attached, one on each side of the trencher so that a 45° bevel was imparted to the top of each trench wall. When a 30-in. trench was dug, the beveling blade widened the top to 48 in., thus materially reducing the amount of vertical wall subject to caving.

Belt slings and other padded slings have been developed to prevent damage to coating. Boring machines and augers have been improved to facilitate making larger and longer bores. One contractor has a winch on the front of his ditching machine by which the machine may be pulled up steep grades. These methods, plus many others, are responsible for increased quality and production in pipe-line construction.

Conclusion

The continual publicizing of new methods of pipe-line construction is furthering the development of the pipe-line industry. Contractors are desirous of constructing lines in accordance with the best practices possible, and the longer established contractors who are familiar with the development and changes of methods are always ready to adopt new ideas which will result in a better job.

The pipe-line boom, now spurred by the defense program, will undoubtedly bring forth many more new methods than ever before. As more lines are constructed and new methods prove their value, a set of generally accepted standards for pipe-line construction should be adopted.

As Paul Reed points out in his article on "Practices Adopted in Pipe-Line Construction and Maintenance" in the May 15, 1941, issued of The Oil and Gas Journal, "inspection methods have an important influence on the total cost of laying pipe lines. Unreasonable requirements cause losses to the contractor. A company which gains a reputation for arbitrary inspection will eventually receive bids higher than the average for similar work."

A clear understanding between the engineers in charge of the work and the construction foremen regarding the specifications will do much toward speeding up the progress of the job. Misunderstandings, if not cleared up, often lead to arbitrary inspection. Where reliable constructors are used, this type of inspection is unnecessary. Reliable constructors are anxious to complete the work according to the specifications in a workmanlike manner.

A constructor would much prefer to have his job inspected by a very strict inspector who knew and understood the job than to have an arbitrary inspector who did not fully appreciate the work being done. Inspectors who have had practical experience on the work which they are inspecting can do much in eliminating misunderstandings on the job and can be of invaluable help in speeding up the progress of the work.

Developments in Pipe-Line Construction Methods

(Continued from Page 40)

pipe by spring pressure and perform the cleaning.

For years, most protective coatings were applied by hand methods in the field. Recent developments have led to machine application of coating in the field for certain conditions. Certain other conditions favor the mill or rail-head wrapping job.

Several different designs of traveling-type coating machines are now available. One traveling coating machine has been built to apply two hot coats and two wraps in one operation. Stationary machines of a similar design are built for rail-head or storage-yard coating. In setting up for rail-head coating, some of the factors to consider are the pipe diameter, maximum and minimum lengths of pipe joints, estimated speed of pipe stringing, probable weather conditions, accessibility to trucks for loading, location with reference to proposed pipe line and fire hazard.

When pipe is coated over the ditch difficulty is often encountered in maintaining a clean pipe surface; when the rail-head coating-yard method is used the pipe-handling expense is increased. If the line is to be welded by the firing-line method, special dollies having large rubber-covered rollers must be provided to prevent damage to the coating during the welding operations, when the pipe has been prewrapped. The sag of 40-ft. pipe joints of diameters up to 16 in., unless unusually thick-walled pipe is used, will cause unequal spacing between joints when roll-welded on dollies placed at the end of the joints. Coated pipe of 16-in. diameter and larger, has been successfully roll-welded on dollies placed at the end.

Reconditioning of pipe lines in place is often essential and pipe-line constructors are steadily becoming more familiar with this type of work. Pipe-line construction equipment is adaptable to a large part of the reconditioning operation. The cleaning and coating phases of the reconditioning job are very important and will undoubtedly continue to receive much study in the future.

Miscellaneous Methods and "Gadgets"

The aforementioned equipment and practices have led to the present high stage of development

Salute to a PIONEER

LUCAS GUSHER MEMORIAL
Stone and Pitts, Architects.
Pierre Bourdelle, Sculptor.
Premier Granite Quaries, Inc.,
Contractors.

The Lucas Gusher, brought in by Captain Anthony Lucas on January 10, 1901, is universally recognized as one of the important "firsts" of petroleum history. It marked the beginning of the great Spindletop field, the most prolific oil field yet opened; the first oil field on the Gulf Coast; and led to the discovery of the first Louisiana field at Jennings.

It was the first important well drilled with rotary tools; it proved salt dome drilling; marked the Gulf Coast as a major production area; started the State of Texas on a long and productive career in petroleum; and in various ways marked the beginning of a new era in oil. Oil is still produced on the original lease, which has been operated by the Unity Oil Company for thirty-five years.

This grand old veteran will be signally honored at Beaumont, Texas next month. A 54-ft. monument built of Texas Granite over the site of the Lucas Gusher by contributions from various members of the petroleum industry, will be unveiled during the convention of the Mid-Continent Oil & Gas Association. The proposed memorial is illustrated above.

Tretolite is honored to join with others throughout the world in paying homage to this conspicuous leader and worthy veteran of the oil industry.

TRETOLITE COMPANY

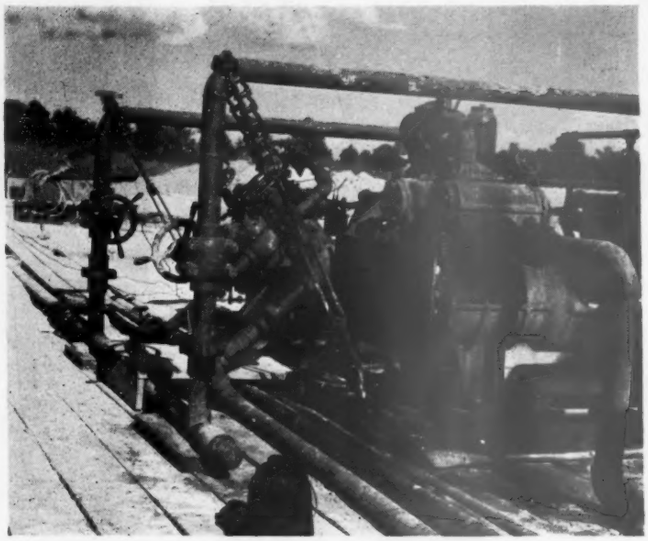
Manufacturing Chemists

Webster Groves, St. Louis County, Missouri
Los Angeles, California
Representatives in All Principal Fields

Reg. U.S. Pat. Off.

DEHYDRATING DESALTING

Operating Ideas

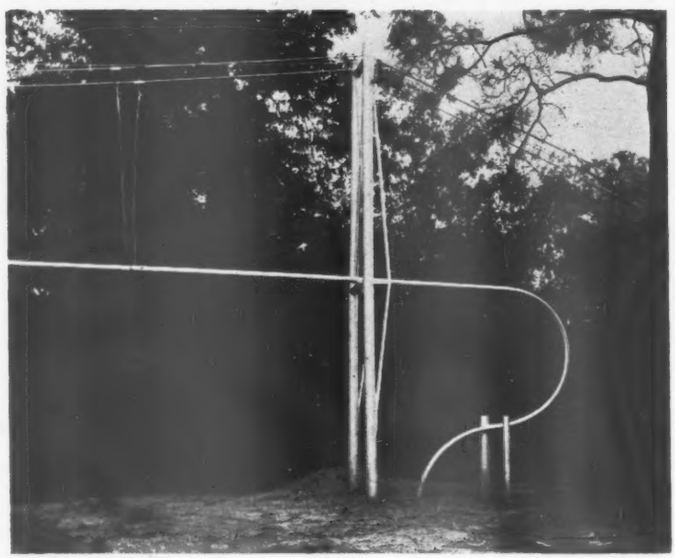


Tie-Down Prevents Mud-Line Strain

The plunger impulse, communicated to the mud line when working under high pressure, results in a pulsation which may result in overstressing of fittings and eventual breakage and consequent shutdown. One drilling company utilizes the weight of the slush-pump assembly as anchorage for the mud line, taking a turn around the elbow of the line with a short length of drilling chain, and applying tension through a turnbuckle shackled to a crossmember of the skid. By blocking up the mud line, any desired tension may be applied against the elbow.

P-Bend Absorbs Line Expansion Stresses

Instead of the usual horizontal loop, which requires supporting structure and protection against wear at contact points, one high-pressure gas line comes off the elevated river crossing in a P-bend or, considering the below-ground portion also, in a sweeping S-Curve which is mounted in a vertical plane. Not only does this type of bend absorb ordinary expansion and contraction changes in pipe length across the bridge, but it also acts to snub vibrations in a vertical plane, such as would be set up by a man walking across on the pipe. Two stubs of pipe, set into the ground, serve as guides to the lower portion of the curve.



Muffler Made from Oil Drum

Exhausts from engines used to operate pumps on wells located in congested districts must be muffled if the operator is to avoid troublesome complaints and possible legal action. This simple but effective muffler was installed on a lease in the Oklahoma City field. A 55-bbl. drum was buried in the ground and was provided with a stack on the top and an opening in the bottom for the exhaust pipe coming from the engine.

Steel Shoes Prolong Wood Skid Life

Substitution of wood for steel wherever possible around the rig, such as the supplanting of the usual pipe skids under dog houses and other structures with wooden beams, will release a certain amount of steel for more indispensable uses. One contractor shoes the ends of the wooden skids with steel shoes, welded up from odds and ends of tank plate, and fitted closely to the beveled end of the timber, to which it is spiked with heavy nails.

Abstracts of A. C. S. Papers

Presented before Division of Petroleum Chemistry at the annual meeting of American Chemical Society held in Atlantic City, N. J., September 8-12, 1941

High-Temperature Alkylation Of Aromatic Hydrocarbons

A. N. SACHANEN and A. A. O'KELLY (Socony-Vacuum Oil Co., Inc.)

AROMATIC hydrocarbons, e.g., benzene and toluene, have been alkylated with olefins at high temperatures of 800° F. and above. This process was performed under atmospheric pressure and in the absence of catalysts, but high pressures and such catalysts as activated clay improved the yields of alkyl aromatics. Toluene is more easily alkylated at these temperatures than benzene. On the other hand, propylene and butylene are stronger alkylating agents than amylene. Under high temperatures the alkyl aromatics produced were partially cracked, forming alkyl aromatics of lower molecular weight. As a result, alkyl aromatics formed were composed of an entire series of aromatics beginning with toluene and increasing in molecular weight. The alkyl aromatics produced contained 90 per cent or more of purely aromatic hydrocarbons.

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Oxidation Characteristics of Pure Hydrocarbons

R. G. LARSEN, R. E. THORPE and F. A. ARMFIELD (Shell Development Co., Emeryville, Calif.)

FROM a study of the oxidation characteristics of pure hydrocarbons, useful information has been obtained relative to the effects of structural factors upon oxidation stability. Thus it was found that all saturated hydrocarbons, paraffinic or cyclo paraffinic, behave similarly and are quite reactive. The aromatics containing a benzene ring attached to a saturated side chain or hydroaromatic ring are still more reactive, due to the activating influence of the aromatic ring. In contrast, naphthalene and other polynuclear aromatics are very stable, apparently as a result of the formation of effective inhibitors upon oxidation. It is concluded that stability of a lubricating oil results not from stability of the basic hydrocarbons but from content of natural inhibitors.

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Mechanism of Low-Temperature Catalytic Alkylation of Isoparaffins

P. D. CAESAR and A. W. FRANCIS (Socony-Vacuum Oil Co., Inc.)

A SIMPLE mechanism is proposed which accounts for substantially all the observed paraffin isomers resulting from low-temperature alkylation of isoparaffins, and no others. A methyl group of the isoparaffin splits off and adds to one end of the double bond of the olefin, while the rest of the isoparaffin molecule adds to the other end. In any group of isomeric paraffins formed by alkylation, the relative amounts agree closely with those computed by thermodynamic equilibrium (excluding those not permitted by the mechanism).

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Determination of the Aniline Point Of Dark Petroleum Oils

BRUCE B. CARR and M. S. AGRUSS (Pure Oil Co.)

AN inexpensive apparatus is described for determining the aniline point of oils darker than 8 A.S.T.M. color. The method developed is based on the visual observation of a thin film formed on the glass wall of the apparatus. Temperatures are obtained by means of a triple junction copper-constantan thermocouple cemented to the inner wall of the apparatus and either a millivoltmeter or potentiometer is used which is calibrated to 0.1 mv. in the range of 0 to 15 mv. An accuracy of ±0.5° F. in aniline point can be easily attained if the apparatus is carefully calibrated.

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Determination of Inorganic Salts in Crude Oil

E. P. RITTERSHAUSEN and R. J. DeGRAY (Socony-Vacuum Oil Co., Inc.)

THE tetraethyl lead extraction apparatus is used to extract the inorganic salts with water. The water extract is titrated for chloride content in conventional manner. The method offers no saving in time for one sample, but with a battery of three extractors, the average time per sample is less than that needed for previous methods. Duplicate determinations by one operator check to within 2 lb. of NaCl per 1,000 bbl. of crude.

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Determination of Mixed Aniline Points of Hydrocarbon Solvents

B. H. SHOEMAKER and J. A. BOLT (Standard Oil Co. [Indiana], Whiting, Ind.)

THE mixed aniline point is a convenient and simple test method for evaluating the solvent properties of petroleum high-solvency naphthas. The definition of the diluent used in determining the mixed aniline point includes any naphtha whose aniline point is 60° C. Data are presented to show that widely different results are obtained in the determination of mixed aniline points of various grades of high-solvency naphthas and of chemically pure toluene when using two diluents of different boiling ranges with aniline numbers of 60° C. The definition of the diluent is too broad and it is suggested that the diluent used be identified not only by its aniline point but also by its mixed aniline point with chemically pure toluene.

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Calculation of Front-End Volatility Of Gasoline Blends

N. B. HASKELL and D. K. BEAVON (Texas Co., Port Arthur, Tex.)

THE increasing complexity of light hydrocarbon processing in a modern oil refinery requires adequate methods of calculating the front-end volatility of various types of gasoline blends. The Reid vapor pressure and the A.S.T.M. 10 per cent point are in general use as measures of this volatility. Methods are presented for the calculation of these tests on blends of refinery gasolines with natural gasolines, butane fractions, and pentane fractions. A general relationship between the Reid vapor pressure and the 10 per cent evaporated point is an essential part of this method, as is a correlation for the prediction of the A.S.T.M. distillation loss from the C_4 and C_5 content of the stock. Accuracy of the method is good, being on the order of ±0.2 lb. per sq. in. Reid vapor pressure and ±2° F. 10 per cent point.

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Apparatus and Methods for Precise Fractional Distillation Analysis

WALTER J. PODBIELNIAK (Podbielniak Centrifugal Super-Contactor Co., Chicago)

CONSIDERING low-temperature fractional analysis as essentially a constant product purity variable reflux ratio batch distillation process, a complete theoretical investigation has been made on the minimum plate and minimum reflux ratio requirements for hydrocarbon separations of most practical interest as in the analysis of natural and cracked refinery gases and cracked C_4 fraction.

The basic charts are plots of computed minimum plates and of minimum reflux ratios against both "alpha" and top and bottom column concentrations, a list of "alphas" for the usual hydrocarbon separations of interest, and a chart of effect of higher-boiling component impurity on rise of temperature on plateaus. A final derived chart plots (*a*) computed ideal distillation rate curves, (*b*) minimum plate of (*c*) maximum distillate rate curves for three typical hydrocarbon mixtures, including (4) integrally derived total distillation time curves.

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The Molecular Volume of Liquid Alkanes at Corresponding Temperatures

GUSTAV EGLOFF and ROBERT C. KUDER (Universal Oil Products Co., Chicago.)

THE comparison of the molecular volumes of hydrocarbons at their boiling points or melting points suffers from the fact that these temperatures are not exactly constant fractions of the critical temperatures. When the normal alkanes are compared at exactly corresponding temperatures between their melting points and boiling points it is found that the molecular volume is an additive function with no complications from the alternating factor. In the equation $V = a + bn$ (where V represents the molecular volume and n the number of carbon atoms in the molecule) a

is a linear function, and b a parabolic function, of the reduced temperature. A resulting practical application is the prediction of the density of butane below its boiling point.

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Evaluation of Granular Adsorbents For Petroleum Refining

OGDEN FITZSIMONS (The Barrett Co.) and R. C. AMERO and R. G. CAPELL (Floridin Co.)

NO satisfactory relationship has ever been established between the decolorizing power and the composition of the fuller's earth and bauxite type of petroleum adsorbents, and consequently chemical analysis is of no value as a means for control. The evaluation requires actual percolation procedures on a small scale which duplicate on a small scale larger operations in the refinery.

Controlling variables, such as particle size, activating time and temperature, bed depth, percolating temperatures and so forth, have been investigated and are reported upon. The testing equipment and procedures based on the investigation are described and data are presented to show that the method is accurate to three parts in 100.

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Free Energies and Equilibria of Isomerization of the Butanes, Pentanes, Hexanes, and Heptanes

FREDERICK D. ROSSINI and EDWARD J. R. PROSEN (National Bureau of Standards, Washington, D. C.) and KENNETH S. PITZER (University of California, Berkeley)

THERE are presented in tabular and graphical form, for the two butanes, the three pentanes, the five hexanes, and the nine heptanes, all in the ideal gaseous state, values for the following thermodynamic properties for the range 298° to 1,000° K.: (a) The standard free energy of isomerization divided by the absolute temperature, $\Delta F.^\circ/T$, and (b) the relative amounts of the several isomers present at equilibrium with one another. For the two equilibria, n-butane = isobutane and n-pentane = 2-methylbutane, comparison is made of these values with the results of direct measurements of the equilibria as reported by other investigators.

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A Simple Viscometer for Research and Control

FRANK C. CROXTON (Battelle Memorial Institute, Columbus, Ohio)

THE increasing importance of accurately determined viscosities of petroleum products is causing widespread adoption of capillary-tube viscometers in the industry. This paper describes a viscometer which was designed to bring together practically all of the advantages of the various earlier instruments. A vapor thermostat is equipped with an interchangeable ground joint so that any of a series of Zeitfuchs type viscometer parts may be used therein. An equation for calculating the capillary size necessary to approximate a desired viscometer constant, is given. The more important features of the instrument are its accuracy, flexibility and speed in combination with low cost.

A Laboratory Machine for Investigating Corrosion of Bearings

S. K. TALLEY, R. G. LARSEN and W. A. WEBB (Shell Development Co., Emeryville, Calif.)

A SIMPLE laboratory machine has been devised which simulates the essential factors leading to corrosion of bearings, and permits a study of factors which control the appearance and extent of bearing corrosion. Metallographic comparisons of the laboratory specimen with corroded engine bearings confirm that the laboratory test measures pure corrosion in the absence of mechanical breakdown incidental to operation of an engine. Of the operating factors affecting bearing corrosion, temperature has been found to be the most important. This may be due in part to its effect upon type and extent of oil oxidation and upon the existence of protective films on the bearing surface.

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Composition of Catalytically Cracked Gasolines

J. R. BATES (Houdry Laboratories of Catalytic Development Co.), S. S. KURTZ (Sun Oil Co.) and F. W. ROSE, JR. (Houdry Laboratories of the Catalytic Development Co.)

SINCE the advent of commercial catalytic cracking of petroleum to produce gasoline there has been much speculation as to the reason for the high octane number of this material as a motor fuel over fuels produced by thermal cracking, and over those occurring in nature as straight-run gasolines. The work presented here shows that this is due to the presence of an overwhelming excess of isoparaffins over normal paraffins in the lower boiling portions of the gasoline and to a high content of aromatic compounds in the higher boiling fractions. The olefin content of catalytic gasolines can be varied widely, with only a secondary effect on fuel quality.

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Determination of Free Sulfur In Lubricating Oil

HARRY LEVIN and ERVIN STEHR (Texas Co., Beacon, N. Y.)

A METHOD is described, for determining free sulfur in lubricating oil, which involves dissolving the sample in benzene and acetone, refluxing with copper to fix the sulfur as sulfide, and determining its available hydrogen sulfide iodometrically. Special precautions and apparatus were found necessary to avoid loss of hydrogen sulfide and these are described.

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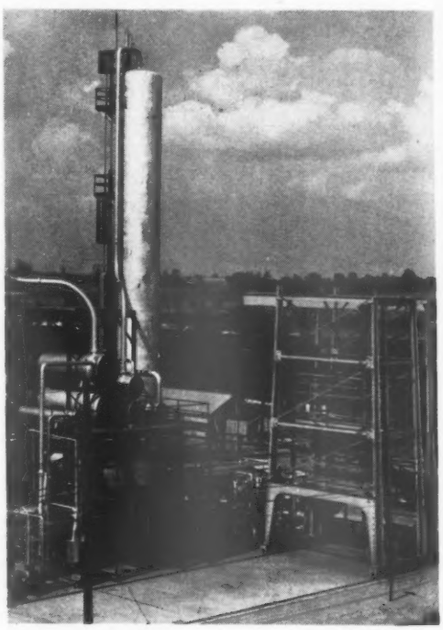
Laboratory Evaluation of Some Factors Causing Lubricating-Oil Deterioration in Engines

R. E. BURK, E. C. HUGHES, W. E. SCOVILL and J. D. BARTLESON (Standard Oil Co. of Ohio)

A NEW laboratory method for evaluating the deterioration of lubricating oils is described. The design is based upon a quantitative adjustment to the oil volume of the important factors influencing oil deterioration in engines. An arrangement provides a scrubbing action on catalytic surfaces induced only by the air used for aeration. The effects of these factors and of test variables are examined. The results are shown for a number of known types of oils. The correlation of such results with engines and the evaluation of detergency and bearing corrosion by this procedure are described.

Mobile Gantry Crane and Monorail Hoists for Servicing Tubular Equipment

WHERE a plant installation involves a large number of tubular units the question of cleaning and repairing is an important one. The more usual method is to provide a stationary gantry-crane structure with monorail hoist facing the tubular banks. This permits pulling tube bundles and servicing on platforms adjacent to the tubular units, or, if desired, lowering to the ground, thus eliminating the necessity of erecting temporary scaffolding whenever a cleanout is required. Although this equipment is satisfactory from the standpoint of maintenance costs, the



capital expense for installing the permanent steel gantry-crane structure is high. This is particularly the case where a large number of tubular units are involved and in the interest of pressure drops it is necessary to locate columns between the tubular banks, thus requiring a long steel structure.

In recent installations at the Wood River, Ill., and the Houston, Tex., refineries of Shell Oil Co., Inc., a large capital investment has been obviated by providing a movable gantry-crane unit with two monorail hoists suitable for servicing simultaneously two side-by-side tubular units mounted on each of two decks and the ground. These mobile units, erected by C. F. Braun & Co., are mounted on flanged wheels and are moved as required on two parallel steel rails 145 ft. long to positions in front of the various banks of tubular exchangers, condensers, and coolers. Thus with a small mobile structure, maintenance can be performed on tubular units at low cost, avoiding the necessity of either erecting temporary scaffolds and staging whenever a cleanout is required or of erecting an expensive permanent steel structure some 130 ft. long.

Progress in METALS

By W. L. NELSON

Design Data on Lead

IN the designing of lead-lined equipment in refineries, the extreme ductility and low strength of lead has been a constant source of difficulty. Designers have so frequently overestimated the load-carrying strength of lead that they have tended to become conservative and have overdesigned most equipment. In the recent paper by

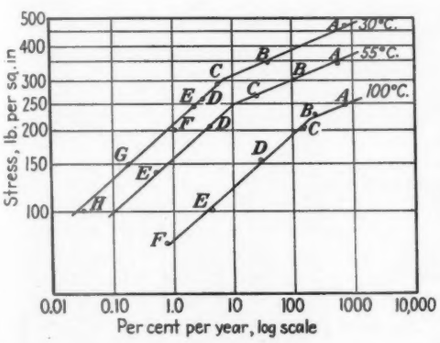


Fig. 1—Rate of stretch versus stress for pure lead. (Note: Unit of lower scale is per cent creep per year)

Albert A. Smith, Jr., entitled, "Creep and Recrystallization of Lead," which was presented in October 1940 before the American Institute of Mining and Metallurgical Engineers, creep data on the behavior of lead is presented. The results of this investigation are shown in Figs. 1 and 2

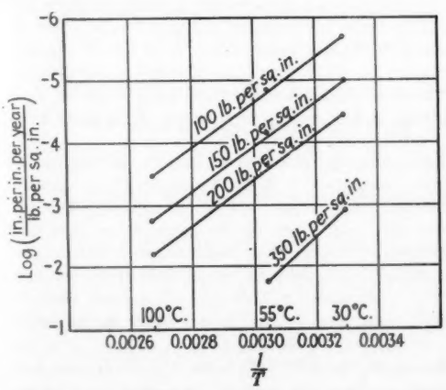


Fig. 2—Ratio of rates of stretch to stress at various temperatures.

on this page. Details of the laboratory procedure and scope of the tests are given in the original paper. Extremely pure lead (99.9998 per cent) was tested and a temperature range of 30°-100° C. (86°-212° F.) was covered.

It should be noted that the stress in pounds per square inch which will cause a creep of 1 per cent per year is extremely low, being about 80-210 lb. per sq. in. This accounts for the fact that lead linings must be supported at close intervals. The design of lead equipment should be greatly facilitated by the application of this creep data.

Metallizing Gasoline Pumps

MANY of the parts of gasoline pumps may be protected from atmospheric corrosion and the action of gasoline by means of a coat of zinc applied by metallizing. Such an application is described in the Metco News (May 1941) published by Metallizing Engineering Co., Inc., of Long Island, N. Y. Such parts as rotary pump bodies, angle check valves, foot valves, line valves, and the meter cover are being metallized with zinc by the Tokheim Oil Tank & Pump Co., of Fort Wayne, Ind. This company finds that this method is superior to zinc coatings applied by hot-dip galvanizing or cadmium coating applied by plating.

In the same issue of Metco News, the results of corrosion tests in the presence of salt-brine spray, hydrogen sulfide-air mixtures, and sulfur dioxide-carbon-oxide-air mixtures on zinc coated and aluminum coated (metallized) castings are reported in detail. A brief summary of some of the results of the tests in the hydrogen-sulfide-air mixture (approximately 1 per cent by volume) is given here for three specimens:

Condition—	Hours exposure	Kind of coating
1. No apparent change	71-1,405	Zinc
2. Coating slightly darkened	1,405-2,653	Zinc
3. Very thin black deposit on edges	2,653-4,453	Zinc
4. No apparent change	71	Aluminum
5. Small areas of black deposits	71-4,453	Aluminum
6. Black deposit 10-40 per cent of surface	4,453	Aluminum

Alignment of Welded Piping With Welding Rings

THE alignment of pipe and fittings is a major time-consuming operation in the welding of piping systems. Various types of jigs, clamps, frames, etc., have been employed to line up the pipe and fittings before they are tacked together and welded. A new addition to these methods of obtaining alignment is the welding ring of Tube-Turns, Inc., of Louisville, Ky. These rings are constructed of thin material which can be slipped into the ends of the pipe or fittings so that a temporary joint is obtained while the parts are being tacked together. A ridge in the center of the ring insures that the ring does not slip out of position and that the parts are uniformly close together on all sides.

Among the advantages given for these rings by the manufacturer, are: (1) Decreases time required for alignment by as much as 15 minutes in many instances; (2) exact spacing is obtained by the center ridge on the ring; (3) weld metal penetrates to bottom of the weld notch in first welding pass; (4) the joints are sr oth on the inside because icicles of metal do not leak into the pipe; (5) saves material because the ring contributes to the weld metal, because waste is lessened and because a minimum spacing can be obtained; (6) eliminates many expensive jigs, fixtures and clamps; (7) permits the employment of less-experienced welders.

Drill-Stem Bushings

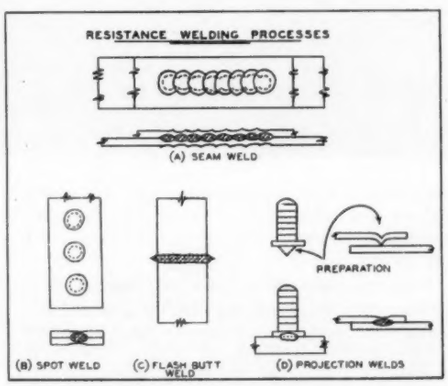
DRILL-STEM bushings are used to hold the drill stem in place in the rotary table and for such a service the very toughest kind of metallic material is necessary. The drill stem rubs in the bushing and in addition severe shocks are encountered as rotation starts or as hard structures are encountered by the bit. Regular steel wears faster and might break whereas manganese steel (13 per cent) is probably the most wear-resistant and shock-resistant common metallic material. This steel is so tough that it must be ground to finish shape.

This steel should not be confused with the low manganese steels (1-2.5 per cent) which have altogether different properties and are more nearly comparable with plain carbon steels.

Welding Terms

Pressure Welding Processes

THE group of welding processes wherein the weld is consummated by pressure are referred to as pressure welding processes. One such process is forge welding (blacksmith, roll, or hammer) in which the parts to be welded are brought to a



suitable temperature by means of external heating and the weld is completed by application of pressure or by blows.

Resistance welding is also a pressure process. If the fusion is confined to a relatively small portion of the area of the lapped parts that are to be joined, the process is called "spot welding"; whereas, if the overlapping or tangent spot welds are made progressively, the process is called "seam welding." Resistance butt welding is much the same except that fusion occurs simultaneously over the entire contact area of the parts being joined. Projection welding is a resistance process wherein localization of heat between two surfaces or between the end of one member and surface of another is effected by projections. Sketches of resistance welding processes are shown on this page.

SAFETY — Tank Tops Are Not Built to Walk On

PUMPERS and gagers are much safer now while following their routine duties than formerly as the oil companies have come to realize that a tank battery has a number of hazards. Better housekeeping around the lease has not only added to the appearance but it also has been instrumental in eliminating many minor mishaps. This does not relieve the lease worker from being careful as he pursues his duties, but emphasizes the sources of potential accidents.

The principal dangers around tanks where oil is stored are fire, asphyxiation and falls. While some fires are caused through means beyond control of the management or lease worker, most of them are due to following an unsafe practice or allowing a definite fire hazard to exist. A vaporproof tank battery not only saves the company money but is perfectly safe if properly lighted and maintained. Proper venting where vaporproof systems are not installed will make the oil storage safer.

In recent years there have been two trends in tanks. One has been toward the low 250-bbl. bolted tank and the other is to the high 210 or 110-bbl. welded tank. A fall from either would probably not be fatal but might cause a broken bone or a bad sprain. A thin sheet of ice is often found on the top of the tanks during winter weather. There is also enough oil splashed during gaging or thiefing to make a very slippery condition when the tank top becomes wet from rain or dew.

The tank tops, or decks, are built to cover the tank and are not built as a walkway. When in good condition the deck will easily support a man but no one can tell how thick the shell is by looking at the exterior of a tank. In some areas tanks corrode badly in less than a few weeks time and a weakened top might crumble away under the weight of the pumper. Very painful injuries can result from such mishaps while if any large section fails, and allows the pumper or gager to fall in the tank, he is nearly always killed. The oil does not have sufficient density to support a human being and even if the unfortunate victim catches a hold on the tank, fumes will kill him.

Companies are now designing all tank batteries, even in the areas where the crude is noncorrosive, with walkways and the valves and hatches so located that there is no reason for a man to walk on the deck. The accompanying photograph shows a battery of 210-bbl. welded tanks with thief hatches and valves located next to the walkway and a suitable venting system.

Inhaling of gas from a thief or gage hatch is extremely dangerous regardless of whether the crude is sweet or sour. There have been cases where pumpers or switchers toppled from tank or walkway while they were watching the fluid level as they topped out the tank. Ordinary hydrocarbon vapors when inhaled act as an anesthetic or as an asphyxiant; sometimes the victim recovers with or without artificial respiration and in other cases he doesn't recover.

Sour gas, or hydrogen sulfide, produces a different effect. It is extremely toxic and in high concentrations may be detected by an odor similar to rotten eggs. Low concentrations cannot be detected by smell and this fact has caused the death of quite a number of production and drilling men as the lack of an odor gave them a false security. The gas is heavier than air and tends to settle in low places. Hydrogen sulfide acts on the nervous system and paralyzes the lungs, breathing is stopped, the oxygen supply is cut off and the heart stops beating. Concentrations of 0.1 per cent of hydrogen sulfide may cause unconsciousness or death while higher concentrations kill almost instantly.

While the same facts about this gas apply with equal force to drilling and refinery operations, it is particularly important to production workers. In one sour crude field there have been several deaths caused by hydrogen sulfide. In each case the workman toppled from the tank but the injuries were slight and no bleeding resulted, indisating stoppage of the heart preceding the fall.

The tops of tanks are safe as long as the workman stays off of them and keeps his nose away from the fumes from the hatches.

Questions and Answers

I am planning on drilling a test to the Trenton lime at about 735 ft. in the Colmar field, Hancock-McDonough counties, Illinois. Is it best to shoot, acidize or shoot and acidize in this formation? One well in this formation was shot into water after having been plugged back. Is a core analysis necessary? The Hoing sand at about 435 ft. is also productive. What is the best method of perforating the casing? Can this be done with a knife? Can I pump the two formations at the same time?—S. F. H.

The Trenton "sand" is really not a sand but is either a dolomite or a limestone, depending on the locality. The big Trenton production near Lima, Ohio, was from a dolomite while the productive Trenton in southern Illinois is the Plattin-Kimmswick, which is rather a pure limestone although there is some dolomite present. Dolomite resembles sand on visual examination and in some cases the producing characteristics are similar to sand.

Decision on the best procedure in completion can only be taken after the pay zone has been drilled and the core studied. Nitroglycerin shots are used to crack the formation regardless of whether it is relatively porous and permeable or nonporous and impermeable. In the former case the shot has to be considerably larger to open fissures over any great radius while the more compacted formation generally cracks easily. Shooting of a very tight formation is more essential to a successful completion than shooting in a loose formation as in the latter case the oil would drain into the hole if sufficient time were allotted. Shooting is widely used in sand wells as this formation does not readily react with acid.

There are two aims in acidizing a well such as yours at completion time. The first is to enlarge the bore hole and to open up drainage channels immediately around it. This requires only a small acid treatment and is generally accompanied by a good increase in production due to the elimination of material clogging the pores. The second aim is to open up drainage channels over a wide area and if possible to tap more productive territory than has been encountered by the well bore. This requires a large acid treatment applied by an expert. Such treatments almost certainly result in large increases in the initial production of the well. This is most widely used where the formation is relatively tight or where a competitive situation exists and operators seek to get as high initial and as much production as possible in a short time.

Combination nitroglycerin and acid treatments have been used in West Texas and New Mexico completions in lime and dolomite wells. The object here is to open up drainage cracks with the nitroglycerin and thus make more formation accessible to the acid. Shots as high as 600 qt. and acid treatments of 9,000 gal. have been used in such cases and the results are often phenomenal.

If, after the core has been examined, it is believed that a shot will crack the formation and open up drainage channels, shooting is in order. If the formation shows that it will react readily with acid, this will be the better procedure. The principal difference between dolomite and limestone is the replacement of part or all of the calcium in the limestone by magnesium. The limestone reacts readily with the acid while the reaction of dolomite can only be predicted by testing.

Effectiveness of the acid treatment will depend to a great extent on the acid used and the man-

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ner in which it is applied. If it is obvious that there will be little reaction between the acid and the formation, shooting will be necessary. If the formation is quite tight, it may be necessary to shoot and then acidize.

Wells are often ruined by poorly supervised shooting or in cases where the operator wishes to crowd his luck and attempt to drain all of the formation. One company operating in Illinois has found it necessary to have a consultation with the geological department before shooting a well. The shots are never placed closer than 3 ft. to the water zone and generally farther away if possible. This allows the bottom of the hole to be plugged later without affecting the good producing zone in case the water begins to come into the well.

There is practically no danger from a properly placed and tamped shot. If you feel that it is necessary to shoot the well, consult the service company about the size shot. The shooter has wide experience in such matters and he can give you good practical advice. There are formulas for determining the size shot to use, but local conditions are such an important factor that the knowledge of the man handling the explosive is more valuable.

While core analysis is not absolutely necessary to the successful completion of a well, it is extremely helpful and many companies look on it as a necessity. It may save you considerable money as it predicts the productive capability of the well. It may indicate that the expense of acidizing, shooting and completion work may not be justified. It will also show where the shot or acid should be concentrated for the maximum benefit. Much money is wasted annually by oil perators in the useless acidizing and shooting of barren streaks in the pay formation. For the first several wells in a particular pay in a pool, core analysis is almost essential if rational production practices are to be established. Some companies have even found it desirable to analyze the core from each completion.

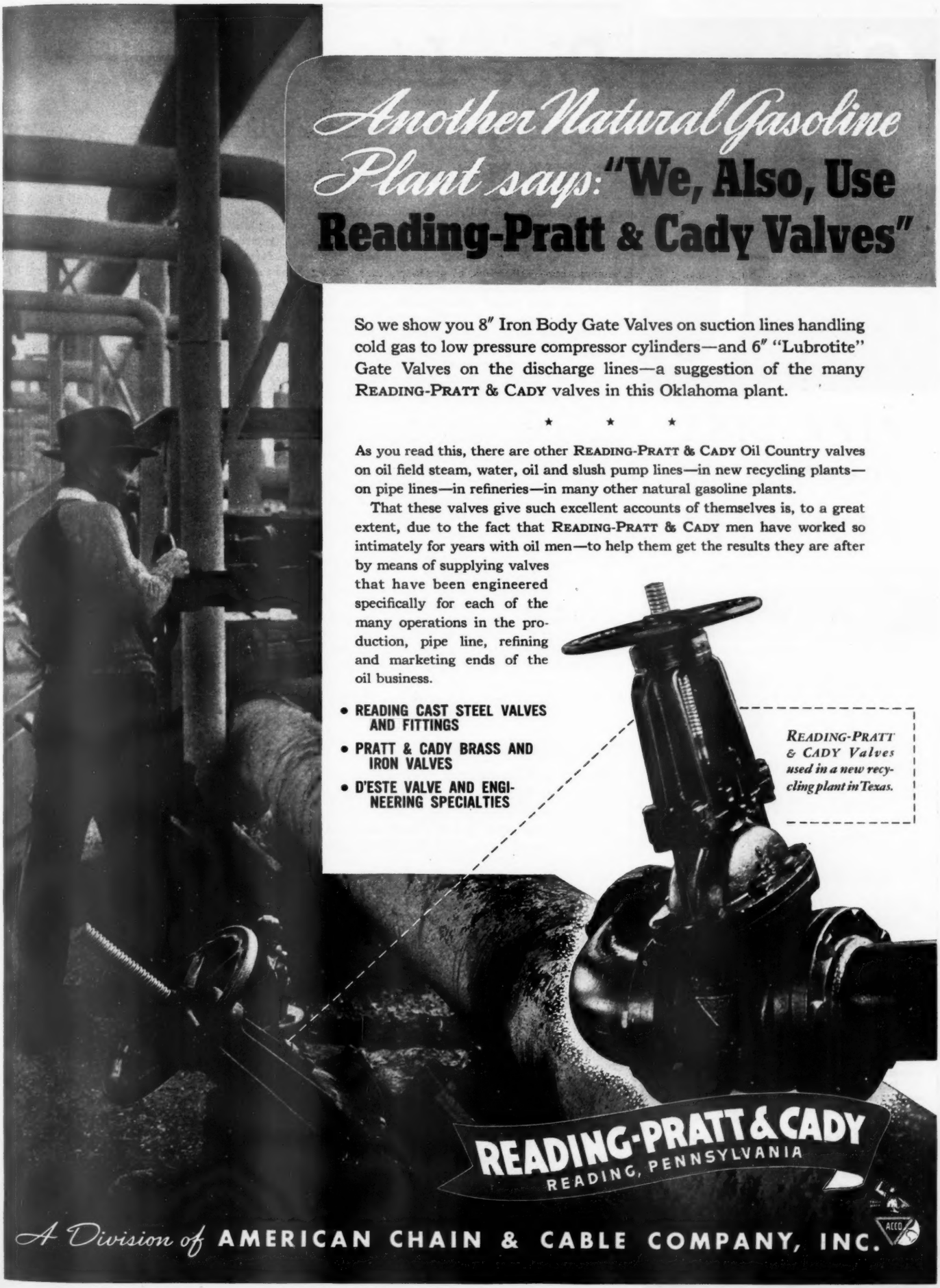
Perforating Casing

There are five ways of opening the casing opposite the pay formation. The most widely used, because of its simplicity and certainty, is gun-perforation. There are also the casing knife or ripper, the casing mill, the whipstock and the use of a removable section in the casing string which can later be milled, acidized or shot out.

Your well is at a considerable distance from the operating point of a gun-perforator truck and if your contractor has tools rigged up over the hole it will probably be cheaper for you to use a casing ripper. Numerous types of these are made. Use of a whipstock and a casing mill requires rotary tools and is not considered as you are probably using cable tools to drill the well.

There is an advantage in running a removable section as it is then possible to scrape the face of the upper pay sand and shoot it if necessary. This method has been extensively used in the southern Illinois fields, particularly Louden. Two types of removable casing are available, the aluminum alloy and the magnesium alloy. The former can be removed by a special bit run on rotary tools while the latter can be removed with hydrochloric acid or by solidified nitroglycerin.

Two-zone wells can be pumped in a number of different ways. The simplest is to let the production from the upper pay gravity down the well to where it can be picked up by the working barrel which is located opposite the bottom pay zone. If the upper zone carries heavy water, this method is not advisable and it is best to separate the two zones with a packer through which the tubing can be run. Special pumps have been designed for this purpose. There is also a method which uses a double-tubing string with the packer being used to separate the zones.



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Pipe-Line Activity

Negotiations Proceed for Obtaining Pipe for National Defense Lines

THOSE concerned with the National Defense Pipe Lines, Inc., project have continued to carry on negotiations to arrange for facilities for making pipe for the 1,586-mile line proposed for transporting 250,000 bbl. of crude per day from Wood River, Ill., and Longview, Tex., to Pennsylvania and New Jersey refineries. These negotiations have gone ahead at the same time that critical opposition has been expressed in testimony presented to a Senate committee by Admiral Emory S. Land, chairman of the Maritime Commission, and Ralph W. Budd, defense transportation commissioner and spokesman for railroad and ship interests.

The project has been conceived as more than a means for relieving a situation brought about by the present tanker shortage; such a pipe line would provide an interior artery insuring a flow of oil to the industrial East. This would have a strategic value when extensive hostile naval operations at some future time might mean that tanker transportation would be vulnerable and difficult for the Navy to defend adequately.

Arrangements must be made for plate-steel output required for making the 24 and 22-in. pipe for the project. Two pipe mills capable of supplying this large pipe have a total capacity of about 16 miles per day. To use these mills effectively, it will be necessary to get the plate steel output of two mills in the Illinois area. At present these two mills are engaged in making plate steel for ships which are being fabricated on the eastern seaboard. The 16-in. pipe for the Wood River-Salem, Ill., section can be made in other mills; plate steel will not be required for pipe of this size. It is believed that deliveries of large pipe for the project will begin within 2 weeks after the project has been officially authorized by the federal Government. To carry out the program, deliveries will be completed in 100 days.

Immediately after the project has been authorized, contractors will be asked to send in their bids and contracts will probably be let within a week. Twenty-one contractors have expressed a desire to bid on the work of laying the pipe. It is believed that nearly half of these firms possess adequate equipment for laying this large diameter pipe. To carry out a 3-month program for laying the Wood River to New Jersey and Pennsylvania section, known as the eastern leg, during the months of October, November, and December, it is estimated that 30 gangs may be required. Work would start at the eastern end in order to get through the mountains of Pennsylvania before the severest winter weather begins. It appears that the eastern leg may be built in 6 months and that the entire project may be completed in 7 to 9 months. Contractors will be furnished with priorities for construction equipment for this undertaking.

Eastern engineering firms, experienced in handling right-of-way problems for gas, water, and power lines, have been engaged for working out problems involved in selecting the best routes through congested areas of Pennsylvania and New Jersey.

•

Sohio Buys Southern System in Mississippi

Standard Oil Co. of Ohio has exercised its option for purchase of Southern Pipe Line Co.'s line which has connection with 17 wells in the Tinsley pool of Yazoo County, Miss. The price was not revealed. H. M. Morse, state oil and gas supervisor, said the purchase is the first recognition by a major company of the growing production in the Tinsley pool. Facilities acquired by Sohio may be expanded into a much larger gathering system.

Cities Service Prepares to Lay Cement-Oklahoma City Line

Cities Service Gas Co. has consummated negotiations and is now completing plans for a gas pipe line from the West Cement field, Caddo County, Oklahoma, to connect with its present system near Oklahoma City, according to an announcement by H. R. Straight, president.

This line, which will be 55 miles of 16-in. and which will cost $750,000, will originate about 6 miles northwest of the town of Cement and will connect into the company's present 16-in. line about 4 miles southeast of Oklahoma City. It will enter the general system through the Oklahoma City 20-in. line north to supply Oklahoma, Kansas and Missouri markets.

The line will operate at an initial pressure of 700 lb., at which pressure it will have a capacity of 90,000,000 cu. ft. per day. Average daily deliveries are now calculated at from 50 to 60 million cubic feet, which figures may be increased as the field is further developed and demands increase.

The decision to build this line and enter this field is in line with the company's policy of augmenting its supply so as to be able to furnish gas to an increasingly large number of defense projects located in the area which it serves.

It is expected that shipments of pipe will start to arrive in October. In line with the company policy it is expected that the line will be laid largely with oxyacetylene welding. Construction will be undertaken by the company's own construction organization under the direction of H. B. Milam.

Texas Pipe Line Co. Starts Line To Apache, Okla., Loading Rack

Bids were received early this week for the immediate construction of a 7-mile crude-oil gravity line consisting of 6 and 8-in. pipe from the new producing area near Apache, Okla., to a loading rack at the town of Apache. Plans for a 100-mile line from Apache to Seminole, Okla., are being held up pending arrangements to procure pipe.

Simrall Constructs Outlet For Reed City, Mich., Pool

Simrall Corp. has rushed to completion the 35-mile, 6-in. crude-oil pipe line to provide the first pipe-line outlet for the Reed City, Michigan, pool. This line will connect with the company's pump station at Temple, Mich. The pool at pres-

Pipe-Line Personalities . . . . . H. P. George

H. P. GEORGE, general superintendent natural-gas production and transmission for Southern California Gas Co., Los Angeles, Calif., was born in Ellsworth County, Kansas, and followed Horace Greeley's advice to go west at an early age. He was graduated from Stanford University, civil engineering department, in 1910. After extensive field engineering with Stone & Webster during construction of a hydroelectric project on White Salmon River in the State of Washington and other similar work, he entered the employ of Standard Oil Co. in the San Joaquin Valley division. He subsequently became field superintendent for the August Oil Co. in the Midway-Sunset field of Kern County, California, and served in this capacity from 1915 to 1919.

He entered the natural-gas business as superintendent of the Valley division of Midway Gas Co. at Taft, Calif., October 1, 1919. Later he was advanced to general superintendent of the company, and following the merger of this company with Southern California Gas Co., he continued as general superintendent of natural-gas production and transmission. He moved from Taft to the Los Angeles operating headquarters of Southern California Gas Co. in 1925.

Mr. George was married in 1914 to Miss Bertha Knapp. They have one daughter, Paula, born in 1919. He is a Mason and Tau Beta Pi. He is chairman of the transmission committee of the Pacific Coast Gas Association and a member of the American Gas Association and California Natural Gasoline Association. He does his golfing at the Los Angeles Country Club and lives in West Los Angeles.

ent has 28 completed wells and 65 active locations; potential production is estimated to be 100,000 bbl. At present 13,000 bbl. is being moved from the field. Maximum production for the pool permitted by the state is 15,000 bbl. Present transportation facilities for moving oil from the field before the completion of the line have consisted of tank cars and trucks. Equipment for transportation of oil from the pool, including trucks, tank cars and the new pipe line, has capacity for moving approximately 30,000 bbl.

Southern Natural Is Completing Perryville-Logansport Line

Near the end of 1941 Southern Natural Gas Co. expects to complete a construction program consisting of about 130 miles of 14-in. pipe line extending from Perryville to Logansport, La., where it is developing new gas supplies. In addition to this it is installing approximately 134 miles of loop lines, ranging in diameter from 22 to 10¾ in., on the company's existing system, 21 miles to be located in Louisiana, 67 miles in Mississippi, 37 miles in Alabama, and 5 miles in Georgia. The remaining mileage is made up of duplicate lines under river crossings.

The company is also installing 17,300 hp. in gas compressors; 1,600 hp. will be installed at the Perryville station, 2,400 hp. at the Onward station, 3,900 hp. at the Pickens station, 2,400 hp. at the Louisville station, 2,600 hp. at the Reform station, 2,000 hp. at the Tarrant station, 2,000 hp. at the DeArmanville station and 400 hp. at the Selma station.

The installation of these unit and loop lines is expected to increase the system's delivery capacity from approximately 170,000,000 cu. ft. per day to approximately 215,000,000 cu. ft. per day.

In connection with constructing the line from Perryville to Logansport, La., the company is also building a dehydration plant having capacity of approximately 100,000,000 cu. ft. per day. The Perryville-Logansport line should be completed during December and the remainder of the work before the end of the year.

Southeastern Is Granted Right to Condemn

President Roosevelt last week issued a proclamation giving Southeastern Pipe Line Co. of Delaware authority to acquire, by eminent domain, parcels of land needed for an oil line from Port St. Joe, Fla., to Chattanooga, Tenn., to help relieve the eastern shortage.

A similar proclamation was issued earlier in connection with the Plantation Pipe Line Co.'s line from Baton Rouge, La., to Greensboro, N. C.

The latest proclamation said the Southeastern company had commenced preliminary work for construction of a second line and that it was necessary, to carry it to completion, that the company have the right of eminent domain as authorized in the pipe-line law of July 30, this year.

This right of eminent domain must be exercised by the company prior to June 30, 1943, under the proclamation's terms.

The company plans to proceed soon with the work of filling in approximately 30 gaps in the line where railroad and other interests obstructed efforts to obtain right-of-way. Litigation has prevented completion of the major part of the project. Of a total of 450 miles in the project, less than 100 miles of line is now being used. This section is between Port St. Joe, Florida, and Bainbridge, Ga.

Deliveries Through Eastern Crude Lines Increase

Deliveries of crude oil in eastern pipe lines hit a new record in July and, likewise, brought 7 months' movement to a peak. The increased traffic reflects the shortage in tankers as well as stepping up in production of crude oil in Illinois.

For the nine lines in the former Standard Oil group, deliveries in July amounted to 25.8 million barrels, an increase of 4 per cent compared with June, the previous top, and of 22 per cent compared with July 1940.

In the first 7 months of 1941, aggregate deliveries were 150.9 million barrels, as against 137.8 million in the corresponding period of last year.

Increases were marked up by all nine lines in July as compared with the same month in 1940.

In the accompanying tabulation is shown the July and first 7 months' deliveries of this year, with comparisons for similar periods in 1940, in thousands of barrels:

	July		7 months	
	1941	1940	1941	1940
Buckeye	9,398	8,215	53,696	45,899
Eureka	1,005	676	6,096	5,734
Illinois	7,311	6,125	41,410	44,979
Indiana	2,317	2,072	14,455	11,353
National Transit	1,671	1,384	10,311	10,451
New York Transit	873	610	5,469	3,919
Northern	1,144	828	6,945	5,055
Southern	817	344	4,531	2,852
South West Penn	1,282	915	8,039	7,616
Total	25,818	21,169	150,952	137,858
Daily average	833	683	712	643

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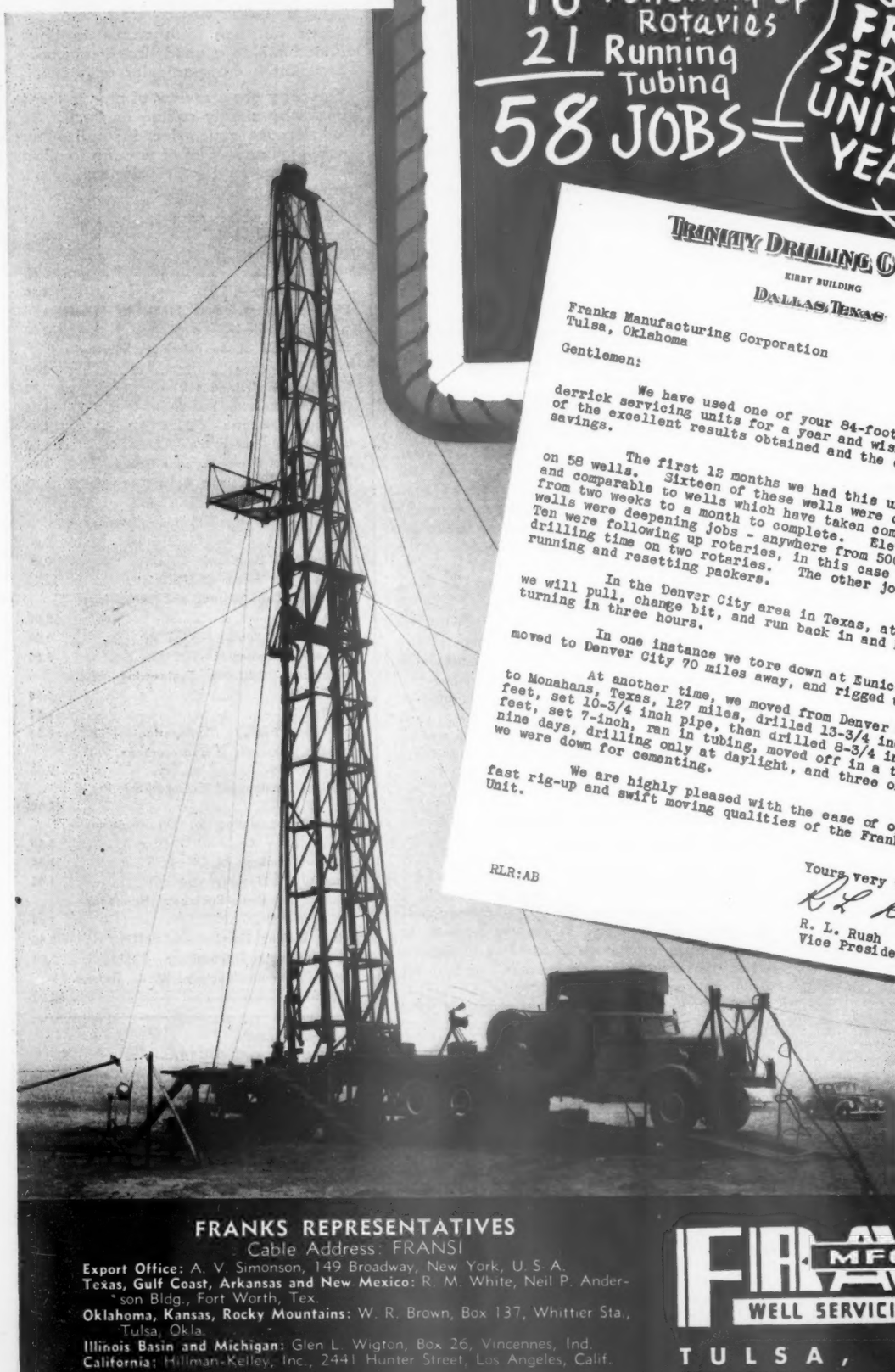

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FIELD DEVELOPMENTS...

HIGHLIGHTS FROM THE WEEK'S NEWS—

Completions remain at a high level with a total of 687, or 8 above those reported last week and 31 below the peak 2 weeks ago. Oil wells were down 7 and gas wells 29, while dry holes increased 44. As was pointed out last week, when there was a drop in dry holes, these weekly changes are not of great significance in considering trends.

The week's news contained several significant developments. Possibly the most important of these were the large increases in reserves given to the Agua Dulce-Stratton structure and to the proven Ellenburger production in the Sand Hills field in Crane County, Texas. In both cases the development was not unexpected, but there is a great difference between "expected" reserves and proven reserves actually developed by drilling.

With attention largely turned toward the major producing areas west of the Mississippi and in Illinois, it is interesting to note that both Ohio and Michigan are developing prolific pools. The Reed City field of Michigan is proving of major importance and in the old producing area of southeastern Ohio, record-breaking wells are also being completed.

In Oklahoma, the Apache pool is another "expectation" which has materialized and will lead to much development. The Kansas play is developing rapidly to the southwest of the Central Kansas uplift and the play along the Kansas-Colorado line started by Stanolind's Kearny County discovery may be given an additional fillip if northeastern Colorado's reported showing materializes.

The Wilcox trend play in coastal Texas and northern Louisiana continues with favorable showings in both sectors and new areas being thrown open for development.

SOUTHWEST TEXAS: The Agua Dulce-Stratton structure which has been proved for large oil reserves downdip from the gas-distillate area has had a much larger area opened up by successful tests on the west and northwest of the structure. A new Frio-Vicksburg field has been opened up in Starr County and McAllen gas-distillate production has been extended 1 mile to the southwest (p. 92).

WEST TEXAS: Controversy as to whether Sand Hills and Sand Hills extension are actually a single pool is ended as a well midway between the two areas is on production. In the northern part of the basin, wildcatting is on the increase, particularly in the area north of present production (p. 72).

TEXAS GULF COAST: The Wilcox trend play is more active than since 1939 as a test in Montgomery County shows distillate-cut mud and two others are nearing the pay. A wildcat in Walker County is also showing oil and gas in the Wilcox. On the other side of the picture, the deep Wilcox test at Segno is showing water in the lower sand and is plugging back to test higher sands (p. 75).

OHIO: The Clayton pool, producing from the Clinton sand, is proving one of the best yet found and a recent completion is the largest to be found in the state for several years (p. 85).

ILLINOIS: The McClosky discovery well near Benton is flowing. The Benoist is showing in a wildcat south of St. James. The prolific Johnsonville pool is extended 1 mile north and a new Rosiclare pool is opened up in Wayne County (p. 76).

OKLAHOMA: The Apache field is definitely on production with a good flowing well in the Wilcox. A Misener sand pool has been opened north of Stroud. The Velma deep discovery well continues to improve and Ohio Oil Co. is adding to the interest in the southwestern part of the state by reporting a shallow gas showing in its Garvin County wildcat (p. 62).

NORTH TEXAS: Clay County's Mississippian lime pool opener is estimated a 600-bbl. well. Showings have been found in the conglomerate in the old Worsham field. Ross and New York City pools have both been extended and Strawn production has been picked up in the Hults-Owens field in Montague County (p. 64).

LOUISIANA GULF COAST: Barnsdall's Point au Fer prospect is proven as a gas-distillate structure. Bayou Sale is extended to the west. Following the discovery of deep sand production on the Pine Prairie dome, considerable development is under way and one test has been started 2 miles west of present production (p. 89).

CALIFORNIA: The Raisin City field northeast of Coalinga is taking on increased importance as the result of the third completion, while the Midway foothills test also offers promise of opening a new field. A test in West Cat Canyon opens up possibilities for considerably increased reserves in that field (p. 68).

COLORADO: A wildcat in the northeastern part of the state reports showings in the Dakota and Muddy sands (p. 81).

EAST TEXAS: Hawkins has been extended to the east. Despite many wildcat failures, new tests and additional leasing are announced (p. 67).

KANSAS: A new pool is in prospect in Pawnee County between the Pawnee Rock pool and the producing areas in northern Stafford and southern Barton counties. A rank wildcat in Pratt County is also showing oil in the Lansing and Viola. Rick is being revived by good Lansing-Kansas City producers. The pool was originally in the Arbuckle (p. 79).

NORTH LOUISIANA: The first oil field in Catahoula Parish is opened in the Wilcox. Lisbon is extended 3 miles northeast and Little Creek is extended 2 miles north (p. 84).

NEBRASKA: A south extension to Falls City is reported in the upper Hunton (p. 79).

MICHIGAN: Production has risen nearly 25 per cent during the past 2 months owing to the new Reed City pool which now has 28 wells and 65 active operations (p. 80).

ARKANSAS: Two Lafayette County wildcats are showing gas in the upper part of the Smackover lime (p. 84).

COMPLETIONS IN ALL FIELDS . . .

(Week Ended September 6, 1941)

	Oil	Gas	Dry	Total	1941 total comp. to date	1940 total comp. to date
N. Y., Pa., and W. Va.	94	19	5	118	4,023	3,771
Ohio	7	12	5	24	1,109	1,054
Kentucky	6	3	5	14	429	381
Indiana	4	1	7	12	354	264
Illinois	70	0	21	91	2,354	2,617
Michigan	11	0	13	24	589	792
Kansas	46	2	9	57	1,494	1,271
Nebraska	0	0	0	0	64	23
Missouri, Iowa	0	0	0	0	25	26
Oklahoma	38	0	23	61	1,298	1,296
Texas:						
North Central Texas	31	2	26	59	1,844	1,948
West Texas	42	0	4	46	1,502	1,360
Texas Panhandle	12	0	0	12	422	409
Eastern Texas	13	0	7	20	731	395
Texas Gulf Coast	17	2	3	22	746	830
Southwest Texas	27	4	26	57	1,250	1,535
Total Texas	142	8	66	216	6,495	6,477
North Louisiana	14	2	7	23	475	417
Louisiana Gulf Coast	11	0	6	17	604	716
Total Louisiana	25	2	13	40	1,079	1,133
Arkansas	1	0	1	2	127	115
Mississippi and Southeast	5	0	1	6	174	141
Montana	5	0	0	5	188	150
Wyoming	1	0	1	2	128	108
Colorado, Utah	0	0	0	0	25	12
New Mexico	2	1	0	3	201	472
California	10	1	1	12	766	719
Total United States	467	49	171	687	20,922	20,822
Total previous week	474	78	127	679		
Week ended Sept. 9, 1940	431	53	117	601		

Apache Field Brought Into Production in Wilcox

By ROBERT INGRAM

SINCLAIR PRAIRIE OIL CO. has brought into production the first oil well of the Apache field of Caddo County although the field was discovered by the Texas Co. in June.

The company's 1 A. A. Lewis, NE NE SW 2-5n-12w, washed into production and flowed 68 bbl. of oil through ½-in. choke on tubing, putting the first oil into the field's tanks.

Later the well did 267 bbl. of oil in 6 hours, with 1,925,000 cu. ft. of gas a day, from sand at 3,264-3,334 ft., total depth 3,342 ft.

Texas Co. has started construction of a pipe line from the field to a loading rack on the Apache townsite and further testing will be delayed until the outlet is completed.

Texas 2 Smith, the "discovery," in C SE NW 2-5n-12w, still was drilling cement after setting pipe on the Wilcox; its 3 Smith was waiting on pipe at around 2,600 ft., and No. 4 was drilling at 2,749 ft.; Texas 1 Maynahanah also has pipe set around 2,600 ft.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Cement	3	827	10,959
East Stroud	2	243	5,782
Hewitt and West	7	1,293	16,191
North St. Louis	2	1,251	7,913
West Earlsboro	3	767	12,756
Other fields	19	2,812	57,344
Wildcats	2	800	7,260
Dry holes: Fields	8	.....	21,148
Wildcats	15	.....	44,887
Total	61	.....	184,240

Good Oiler Added to Otoe City Field

Superior Oil Corp. has added the second and best oiler to its new Otoe City pool of Noble County. No. 2 Faubian, NE SW SE 16-22-1e, west of the discovery well, flowed 50 bbl. of oil per hour through ¼-in. tubing choke after being washed in.

The test topped the Wilcox sand at 4,724 ft., 5 ft. higher than the discovery, set 7-in. on top, and drilled out plug to 4,731½ ft. Casing pressure was 600 lb. and tubing pressure 500 lb.

Unlike the discovery well, the new oiler is making no water.

South of the discovery, 1 Robedeaux, NE NW NE 22-22-1e, has spudded and set 90 ft. of 10-in. surface casing.

Eastern limits of the pool were defined by the company's 1 Donahue, SW SE SE 16-22-1e, which fell across the fault line and was plugged and abandoned after showing only salt water.

Producer Is Added at East Tecumseh

J. E. Crosbie and Atlantic Refining were adding another producer in the East Tecumseh area of Pottawatomie at 4 State, NW SW NE 16-9n-4e. Hunton lime was topped at 4,487 ft. and hole drilled to 4,692 ft. in the Viola; on initial test the well swabbed 20 bbl. of oil an hour, and is to be put on the pump.

Seminole Wildcat Shows for Oiler

Keener Oil & Gas Co. has earmarks of a shallow oil field at 1 Homestake, SW SW NW 28-7n-7e, east of the Little River area in Seminole County. Senora sand was topped at 2,124 ft. and in a core at 2,124-39 ft., all was saturated sand except the last 3 ft. On drill-stem test the well flowed 15 bbl. of oil in 45 minutes.

Since the well was started as a 3,500-ft. test, with bottom-hole contributions to that depth, operators are shut down to decide what to do.

Stroud Test Produces From Misener Sand

Asa Lee Mayes of Oklahoma City has opened a new oil field north of Stroud in Lincoln County after fighting reverses for more than 6 months.

His 1 Sowards, SW SW SW 15-15n-6e, was started in June last year, and was drilled to 4,070 ft.; casing was set at 3,732 ft. early this year and started testing from the bottom up.

Fishing jobs and breakdowns delayed testing. The lower zone was acidized three times, without success.

Latest attempt was in the Misener sand at 4,049-58 ft., where a 20-qt. shot and then a 40-qt. shot jolted the sand sufficiently to make it pay off.

After the last shot the hole filled up 3,000 ft., most of it oil. After cleaning out the well flowed an estimated 100 bbl. of oil in 1½ hours; it continued to head at intervals.

Velma Well Showing for 1,000 Bbl. Now

Skelly Oil Co. et al apparently have big production at their 1 Frensley (4 Robberson), C NE NE 35-1s-5w, deep test in the shallow Velma field of Stephens County. However, testing continues.

Although called a completion for an estimated 150-bbl. producer several months ago, crews have continued working on the well. Monday night the well twice flowed a head of oil over the 122-ft. derrick, and subsequently heads of oil continued Tuesday.

Field men who witnessed the performance estimated the well good for 1,000 to 2,500 bbl. daily. Tubing is to be run again.

The well was drilled to 7,797 ft. and pipe was set at 7,791 ft. Casing was perforated in several zones for small shows, but the best pay was had in three perforated zones, in the bromide-Wilcox at 7,120-35 ft. and 7,140-90 ft. and 7,200-15 ft.

Old Cement Gas Well Plugged Back to Oil Pay

One big producer was completed and work started at three other tests in the Cement field of Caddo County over the holiday season.

Ray Stephens, Inc., 4 Griffin, NW NW SE 27-6n-10w, on the west side, originally was completed as a gas well at 4,778 ft.; the hole was plugged back to 4,200 ft. and pipe perforated at 4,136-62 ft. On potential test the well flowed 586 bbl. in 4 hours, doing 159 bbl. the fourth hour, for a potential of 3,515 bbl.

Gas Show in Garvin Wildcat

Ohio Oil Co. encountered enough gas to blow mud out of the hole at around 985 ft. Friday night at 1 Freeman, SE SE SE 14-1n-1w, southwest of Wynnewood in Garvin County. It was drilling ahead at 1,040 ft. Saturday and carrying 10½-lb. mud.

Helmerich & Payne, Inc., has contract for a deep test, the location being on a 2,000-acre block which has been seismographed; it is the only well ever drilled in this township.

Permits Asked for 10 Tests In Oklahoma City Field

British American Oil and Harper and Turner Oil companies have filed applications with the city council for drilling permits on 10 wells in the south end of the Oklahoma City field; nine are in the Shields addition and one in the Military addition.

It was explained that all of the wells may not be drilled. Work order was issued, however, on two additional wells: The 1 Sheffield, in NW cor. of 15-11n-3w, on Southeast Twenty-ninth near the Santa Fe tracks, and for the 2 Shillings, on Block 20 of the Shillings addition.

These companies are active at five wells at this time: The 1 School, on Block 85 of Shields addition, cleaning out in the pay zone and ready to complete; the 1 Hatfield, on Block 17 of Eckroat addition, drilling at 2,751 ft.; the 6 Military, on Block 16 of Military addition, drilling at 5,160 ft.; the 2 Shields, on Block 58 of Shields, drilling at 5,275 ft., and the 3 Shields, drilling at 4,630 ft.

Test Started on Lincoln County Structure

Hall-Jordan Oil Co. and Herman Hurst, who teamed up early in the year and have opened the Tecumseh Lake and Northeast Wewoka fields, are starting another wildcat on a 1,500-acre lease block of Lincoln County.

Pits and cellar were started Monday at 1 Rooney, NW NW SW 26-13n-3e, southwest of Chandler and northwest of Meeker. Location is on an old surface structure, which has been seismographed several times in the last few years. Contract is for the Wilcox sand, or 5,400 ft.

Sun Oil, Sinclair Prairie, Magnolia Petroleum, and the Texas companies are only majors holding close-in acreage. Among large holders of royalty in the block are the Heller Co., A. N. Wooldridge, Harber & Riddle, Inc., Mineral Royalties, Inc., Magnolia Petroleum, M. Schonwald, C. A. Bell, Carl Hubbell, H. L. Guild, Major Royalty, Fidelity Royalty, and J. M. O'Neal.

OKLAHOMA COMPLETIONS

Wildcats

Creek County: Cole 1 Citizens Bank, NW NW SE 25-14-10, dry, Mayes 2,805 ft., Woodford 3,146 ft., Misener 3,170 ft., Sylvan 3,178 ft., Wilcox 3,282-92 ft., T.D. 3,292 ft.

Garvin County: Gled 1 Bullard, NW SE NE 36-3n-3w, dry, T.D. 1,560 ft.

Kay County: Deep Rock 1 Midgley, NW NW SE 35-28-4, dry, Mississippi chert 3,257-59 ft.

Kiowa County: Thomasson 1 Baker, NW NE NW 7-6-18w, dry, lost hole, T.D. 593 ft.

Lincoln County: Elm 1 Wilson, NW SE 17-14n-6e, dry, Prue 3,201 ft., T.D. 3,281 ft.

Dunnett 1 Luckenbill, SW SW SW 29-15-5, pumped 28 bbl. in 3 hr., 80-qt. shot 3,520-45 ft., Prue 3,504-08 ft., T.D. 3,550 ft.

Logan County: Roy Deihl 1 J. L. Lesh, NE NE NE 19-16-1w, dry, first Wilcox 5,761 ft., second Wilcox 5,841-75 ft., T.D. 5,875 ft.

Love County: Magnolia 1 Wilson, SW SE NW 12-7s-2e, dry at 4,935 ft., base Pennsylvanian 4,225 ft., Sycamore 4,244 ft.

Noble County: Superior 1 Donahue, SW SE SE 16-22-1, dry, second Wilcox 4,737-53 ft., showed water.

M. M. Travis 1 Adriance, NW SW 27-23n-2w, dry at 2,410 ft., Hoover 2,340 ft.

Okfuskee County: D. B. Malernee 1 Beard, SE SW NE 7-11n-8e, flowed 748 bbl. through ¾-in. choke, 2 per cent water, 38 gravity, Cromwell 3,696 ft., T.D. 3,710 ft.

Osage County: Norbla 1 Osage, SW SW NE 9-26-5, dry, 100-qt. shot 3,041-65 ft., Burbank 3,040-50 ft., T.D. 3,135 ft.

Payne County: John H. Tomlinson 1 Willman, NE SE NW 4-19-12, dry at 4,955 ft.

Pittsburg County: Amerada 1 Boomer, NE NE 1-6n-14e, dry, Viola 876 ft., T.D. 888 ft.

Pontotoc County: Mid-Continent 1 Wilson, SE SE NE 26-4-5, dry at 1,532 ft., Calvin 1,362 ft.

Seminole County: Moday Drlg. 1 Whitney, NE NE SE 30-7-7, dry at 2,250 ft., Senora 2,125-30 ft.

R. W. Simpson, Jr., 1 Reed, NW NW SW 13-6-6, dry at 2,860 ft.

Fields

Avoca, Pottawatomie County: Mid-Continent 1 Cecil, W½ NE NE 6-6-4, location abandoned.

Allen, Seminole County: Sunray 6 Webb, SE NE SW 20-5-8, dry at 1,025 ft., Allen 866-915 ft., show oil, show oil 922-98 ft.

Aztec, Okmulgee County: M. W. Lee 1 Montgomery, NE SE NE 31-12-12, pumped 15 bbl., shot, sand 1,178-1,218 ft., T.D. 1,220 ft.

Cement, Caddo County: Magnolia 6 Gingrich, SW NW NW 6-5n-9w, pumped 70 bbl., perf. in Noble-Olson sand 3,295-3,310 ft., T.D. 3,510 ft.

Cement, Caddo County: Phillips 3 Fletcher, NE NW 34-6n-10w, dry at 3,526 ft., P.B. 3,392 ft.

Ohio 9 Wagner-Acct. 1, SW NE SW 12-5-9w, 745 bbl., Wade 3,876-4,004 ft., perf. 3,876-3,976 ft., T.D. 4,020 ft.

George L. Pace et al 2-A McClaren, NE NE SE 6-5n-9w, pumped 12 bbl., Noble Olson 3,422-29 ft., T.D. 3,429 ft.

East Ada, Pontotoc County: Delaney 1-A Griffith, NW SW NE 28-4-7, dry at 2,825 ft.

East Cromwell, Okfuskee County: Shell Oil 1 Dunn, NW NW 36-11-8, dry at 3,435 ft.

East Stroud, Creek County: Lewis 2 Fisher, SW NE SE 32-15-7, 70-qt. shot 2,825-55 ft., flowed 117 bbl. through casing, T.D. 2,855 ft.

Lewis Prod. 2 Foushee, NW NE NW 5-14n-7e, dry, 80-qt. shot 2,820-67 ft., T.D. 2,867 ft.

East Stroud, Creek County: Shell Oil 5 Bunyard, SE SE SE 31-15-7, flowed 126 bbl., 12-qt. shot 2,874-84 ft., T.D. 2,915 ft.

Empire, Stephens County: Louis Sikes 1 Blades, SE SE NE 32-1s-8w, pumped 40 bbl., 20-qt. shot, old well deepened from 1,703-2,295 ft.

T. H. McCasland 1-A Sturm, NE SW SW 34-1s-8w dry at 2,886 ft. in water sand.

Cities Service 17 Surber, SE SW 33-1s-8w, pumped 10 bbl., acid, old well deepened from 1,672-2,325 ft.

Fish, Seminole County: Mid-Continent 4 Fish, NE NE NW 19-7-8, swabbed 45 bbl. from Calvin, T.D. 1,490 ft.

Frederick, Tillman County: Cities Service (I. T. I. O.) 2 Banker, SE NE NE 2-3s-19w, pumped 215 bbl. oil and 500 bbl. water, Canyon lime 3,120-24 ft.

Hewitt, Carter County: Carter 12 Varhus, N½ NW SW 21-4s-2w, swabbed 110 bbl. through casing, oil shows 2,238-54 ft., 2,323-71 ft., T.D. 2,379 ft.

Hale 10 Walker, SW SW NW 21-4s-2w, pumped 50 bbl., perf. 2,224-36 ft., T.D. 2,380 ft.

Isom Springs, Marshall County: Harvey & Swan 1 Adams, SE NW NE 6-8s-6e, location abandoned.

Heweth Mineral Trust 2 Adams, NW NE NE 6-8s-6e, pumped 60 bbl., sand 540-50 ft., T.D. 550 ft.

(Continued on Page 86)

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Clay County Mississippi Lime Pool Opener Makes Good Well

By D. H. STORMONT

WICHITA FALLS, Tex., Sept. 8.—The search for deep production in Clay County was given a definite boost this week with the opening of a new Mississippian lime pool. The pool opener, L. T. Burns 1 Wynn, Block 34, H. Williams Survey, last week showed first indications of production when it flowed 70 bbl. of oil in 2 hours after a 2,000-gal. acid treatment in the lime from 5,894 to 5,949 ft. It was shut in over the week end and when opened kicked off to flow 70 bbl. of oil in 3 hours through ¾-in. choke on tubing

SUMMARY OF COMPLETIONS

North Texas

	No.	Bbl.	Footage
Oil: K.M.A.	5	2,583	18,060
Other fields	7	1,320	22,989
Miscellaneous pools	18	1,069	24,410
Dry: Fields	2	.....	5,802
Miscellaneous pools	11	.....	20,653
Wildcats	4	.....	7,079
Total	47	.....	98,493

West Central Texas

	No.	Bbl.	Footage
Oil: Fields	1	33	1,697
Gas: Fields	2	*75.7	4,157
Dry: Fields	2	.....	2,017
Miscellaneous pools	1	.....	880
Wildcats	6	.....	9,406
Total	12	.....	18,157

for an estimated 612 bbl. daily. Ending pressures were 500 lb. on casing and 110 lb. on tubing. The well topped the Mississippian at 5,891 ft. and was bottomed at 5,967 ft.

The discovery is an old test abandoned several years ago at 5,202 ft. The decision to deepen was based on the findings in other discoveries in the North Texas district.

Offset to Worsham Ellenburger Discovery Shows Oil in Conglomerate

In the old Worsham area of eastern Clay County, the Gulf 5 Worsham, J. M. Swisher Survey, a north offset to the same firm's Ordovician discovery, continued to show indications of oil production from the conglomerate. The test topped the conglomerate showing oil and gas at 5,633 ft. and continued broken to 5,675 ft., total depth. Operator is now drilling ahead with 3,600 ft. of oil in the hole after swabbing 57 bbl. of oil and no water in 4½ hours at 5,641 ft.

Ross and New York City Pools Extended

Operators were busy in other parts of Clay County. In the western part of the county, the Ross Caddo lime pool has been extended ½ mile southeast by the Continental Oil and Superior Oil 3 Ross, W. Walker Survey. Following an 8,000-gal. acid treatment through casing perforations from 5,375 to 5,600 ft., the well flowed 240 bbl. of oil in 3 hours, through ¾-in. choke

The newly established New York City (Mississippian lime) pool southeast of Henrietta, Clay County, was given a ¼-mile extension this week and also its first major producer of the month. The Shell Oil 2-A Coleman, R. W. Tyree Survey, flowed 650 bbl. of oil in 3 hours for an estimated 5,200 bbl. daily. The well was completed in the Mississippian at 6,142-6,286 ft., total depth, after encountering a good show of oil at 5,886-5,911 ft. Flow was through open tubing, natural.

Strawn Sand Production Indicated In Jack and Montague Counties

A new Strawn sand pool for northwestern Jack County is being indicated in the test of Rankin and Elliott at 1 W. T. Stewart, Block 2799, T.E.&L. Survey. Drilled as a Caddo lime test, the wildcat was bottomed at 4,358 ft. in the lime, which it found dry. Operator then plugged back to 3,520 ft. to test a section of the Strawn sand, from 3,489 to 3,500 ft. Plug was drilled from 5½-in. casing and oil rose 2,000 ft. in the hole in 8 hours.

The Hultz-Owens pool, 5 miles west of Bowie in Montague County, may be in line for a second and shallower pay horizon. A new test in the field, Hultz & Owens 1 Brite, Block 2820, returned 75 ft. of oil and 700 ft. of oil-cut mud on a drill-stem test from 4,543 to 4,568 ft.

Normal production from the field is from the conglomerate at 6,030 ft. and operators are drilling ahead at 1 Brite to the regular horizon.

NORTH TEXAS COMPLETIONS

Wildcats

Clay County: J. A. Coker 1 Barber, 750 ft. from S and 950 ft. from E lines, Sec. 31, B. Kellogg Sur., 1,150-ft. test, dry at 1,410 ft.

E. C. Harlin, Jr., 1 Owen, 1,168 ft. from N and 150 ft. from W lines, Blk. 50, Specht & McCutcheon Sur., dry at 1,350 ft.

Cooke County: Burk Royalty Co. 1 Ware, 330 ft. E of A. C. C. Bailey Sur. A-44, and 330 ft. N of H. P. Ware tract, oil sand 2,068-2,107 ft., P.B. from 2,224 ft., proven.

Denton County: Jones Drlg. and D. S. Hager 1 Waide, 467 ft. from S and E lines, W 160-ac. tract in J. Pearson Sur. A-1050, dry at 1,939 ft.

Jack County: Hill & Hill 1 Kinder, 467 ft. from E and 150 ft. from S, B.S.&F. Sur. A-2351, top Palo Pinto 1,070 ft., dry at 3,380 ft.

Fields

Antelope, Clay County: Shell 14 Coburn, 483 bbl. in 8 hr., open tubing, est. 750 bbl., perf. casing 3,194-3,214 ft., P.B. from 3,240 ft.

Bowers, Montague County: Benton & Holmes 4 Bowers, 77 bbl. in 3 hr., ¾-in. choke, est. 95 bbl., perf. casing 3,800-20 ft., 3,840-44 ft., T.D. 3,873 ft.

Bryson, Jack County: Panhandle Ref. 3 Shoun A, 66 bbl. in 2 hr., ¾-in. choke, est. 125 bbl., 3,034-44 ft.

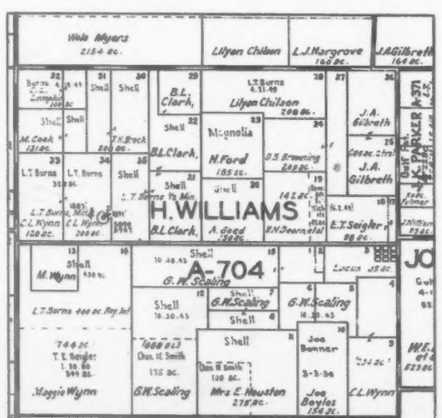
Hull-Silk, Archer County: Blackwell Oil & Gas "Christie" 7 Wilson, 40 bbl. oil and 10 bbl. water in 4 hr., pumping, est. 75 bbl., top Caddo 4,608 ft., 1,500 gal. acid, perf. casing 3,970-76 ft.

Magnolia 7 Rutty, temporarily abandoned at 4,660 ft.

K.M.A., Wichita County: W. H. Hammon 4-C Hammon, 8 bbl. in 24 hr., pumping, 602-12 ft.

Cochran & Cain 1-Ellb. Preston C, 77 bbl. in 8 hr., ¾-in. choke, est. 150 bbl., top Ellenburger 4,409 ft., pay 4,409-30 ft.

Buffalo 14-Ellb. Ferguson, 86 bbl. in 3 hr., ¾-in. choke, est. 325 bbl., 3,000 gal. acid, top Caddo



Southwest Mapping Co., Fort Worth

Opening a new Mississippian lime pool in Clay County this week is L. T. Burns 1 Wynn, an abandoned test deepened from 5,202 ft. to 5,967 ft. in search of deep production. No. 1 Wynn kicked off to flow 70 bbl. of oil in 3 hours for an estimated 612 bbl. daily. The Mississippian lime was topped at 5,891 ft.

3,854 ft., Ellenburger 4,220 ft., pay 4,232-51 ft.

Fain-McGaha 7-Ellb. Griffin, 213 bbl. in 3 hr., ¾-in. choke, est. 850 bbl., top Ellenburger 4,248 ft., pay 4,250-70 ft.

Shell Oil and Phillips 30-Ellb. Griffin, 323 bbl. in 3 hr., ¾-in. choke, est. 1,250 bbl., top Ellenburger 4,370 ft., pay 4,370-4,497 ft.

Mathis, Jack County: Irion Wortham 2 Huckaby, 135 bbl. in 24 hr., top Palo Pinto 1,092 ft., 15-qt. shot 2,878-95 ft.

Nocona, Montague County: Thomas & Harrell 19 Cummingham, 7 bbl. in 24 hr., pumping, 2-qt. shot 932-35 ft., T.D. 937 ft.

Petrolia, Clay County: Ted Norwood 1 Stine, dry at 1,202 ft.

Walnut Bend, Cooke County: Sinclair Prairie 6 Atkins, 132½ bbl. oil and 15 bbl. water in 24 hr., perf. casing 4,930-40 ft., T.D. 5,023 ft.

Miscellaneous Pools

Archer County: Cochran & Cain 1 Minnich, dry at 1,450 ft.

Pet. Prod. 20 King, 82 bbl. in 24 hr., pumping, 1,219-34 ft.

Pet. Prod. 19 King, 115 bbl. in 24 hr., pumping, 1,212-18 ft.

Clay County: Stayton Oil 18 McGregor, 44 bbl. in 24 hr., pumping, 1,157-76 ft.

Riner, Fain & Stilley 4 Hamilton, dry at 1,148 ft.

Frank Wood 3 Taylor, dry at 1,852 ft.

George Golden 3 First Texas Joint Stock Land Bank C, 50 bbl. in 24 hr., pumping, 1,118-36 ft.

Stayton Oil 14 McGregor, 44½ bbl. in 24 hr., pumping natural, 1,157-76 ft.

Stayton Oil 17 McGregor, 31 bbl. in 24 hr., pumping, 1,152-53 ft., T.D. 1,171 ft.

George Graham 14 Hansard, 62 bbl. in 24 hr., pumping natural, 1,135-46 ft.

George Graham 15 Hansard, 42 bbl. in 24 hr., 1,133-45 ft.

Perkins & Cullum 15 Taylor A, 18 bbl. in 3 hr., pumping, est. 85 bbl., 1,084-97 ft.

Harper & Knappenberger 3 Bilbrey, 25 bbl. in 24 hr., pumping, 1,157-72 ft.

Continental, Superior, and Dillard 4 Ross Bros., 155 bbl. in 6 hr., ½-in. choke, est. 290 bbl., top Caddo 5,376 ft., 8,000 gal. acid 5,410-81 ft.

Cooke County: Bridwell Oil 13 Flusche B, 8 bbl. in 24 hr., pumping, 788-98 ft.

Bridwell Oil 14 Flusche B, 32 bbl. in 24 hr., pumping, 758-74 ft.

Harvey Drlg. 1 Ware, 96 bbl. in 24 hr., pumping 2,360-80 ft.

High Point Oil 3 Fette, 20 bbl. in 24 hr., pumping, 1,109-25 ft.

Wichita County: Westbrook Oil 2-A Rammings, dry at 1,265 ft.

W. H. Hammon 5 Johnson, dry at 1,351 ft.

Underwood Oil 9 Stine, dry at 1,352 ft.

S. H. Walton 23 Coleman, 9 bbl. in 24 hr., pumping, 355-62 ft., P.B. from 603 ft.

Cochran & Cain 1 Preston A, old well drilled deeper, old T.D. 4,133 ft., dry at 4,491 ft.

Wilbarger County: Magnolia 64 Waggoner, old well drilled deeper, old T.D. 822½ ft., dry at 3,013 ft.

Young County: N. Gray 2 Bagley, dry at 632 ft.

Thomas Jirik 1 Roenfeldt, 25 bbl. oil and 75 bbl. water in 24 hr., pumping, 1,003-07 ft.

C. B. King 10 Dailey, 8 bbl. in 24 hr., pumping 551-71 ft.

Pemeta Oil 4 Robinson B, dry at 107 ft.

Falcon Co. 2 King, dry at 4,815 ft.

NORTH TEXAS ACTIVE WILDCATS

Clay County: Bridwell Oil 1 Myers, old well drilling deeper, Charleston Thompson Sur. A-444, old T.D. 6,065 ft., S.D., no test.

L. T. Burns 1 Hodges, 330 ft. from S and 1,320 ft. from W lines, Sec. 64, J. H. Belcher Sur., 6,000-ft. test, setting 7-in. casing at 3,928 ft., T.D. 3,938 ft.

Sinclair Prairie 1 Scheer, 1,124 ft. from E and 339 ft. from S lines, Sec. 47, Orange C.S.L. Sur. A-363, drilling 1,018 ft.

Superior Oil 1 Seigler, 467 ft. from S and E lines, W 120 acres, Sec. 3211, T.E.&L. Sur., top Caddo lime 5,770 ft., drilling 6,012 ft.

Cooke County: W. R. Bourland 1 Drane Foundation, 1,750 ft. from S and 750 ft. from W lines of farm in Langford Sur. A-566, 1,800-ft. cable-tool test, first report.

E. N. Brockman and W. G. Phillips 1 Cotton, 3,971 ft. from W and 2,791 ft. from N lines, Bashnell Garner Sur. A-396, 1,350-ft. test, drilling 1,125 ft.

Bill Russell 1 Powers, 300 ft. from N and W lines, Powers tract, Hall Sur. A-790, first report.

Paul Stevenson 1 J. T. Donald, 650 ft. NE and 2,050 ft. NW of E cor. J. Cuffey Sur. A-1545, but in the T. B. Hardwick Sur. A-1599, 3,000-ft. test, S.D. orders in schist at 2,929 ft.

Thornton & McKee 1 Berryman, 450 ft. from N and 400 ft. from W lines, Sec. 22, Barnett Sur., 1,500-ft. rotary test, first report.

Metzner Wallace 1 White, 150 ft. from N and E lines, M. G. White tract, G. G. Steele Sur. A-1061, 1,800-ft. rotary test, first report.

Foard County: Bruce Sullivan 1 McCoy, 1,980 ft. from W and 467 ft. from N lines, J. M. Seaton Sur., 6,000-ft. rotary test, first report.

Grayson County: Brown & Laves 1 Stephenson, 467 ft. from most northerly N and 467 ft. from W lines, Stephenson 92-ac. tract in E central part of Quillen Sur. A-989, 4,100-ft. rotary test, pits.

Jack County: Alma Oil 1 Maxey, V. W. Maxey Sur., treated 1,000 gal. acid, no results, swabbed down and S.I. in 8 hr., 200 ft. fluid in hole, testing.

F. Kirk Johnson 1 E. J. Shawver, 660 ft. from S and 520 ft. from E lines of NW SE J. Turner Sur. A-609, 5,500-ft. test, drilling 4,648 ft.

Magnolia 1 Borden, 1,000 ft. from N and 500 ft. from W lines, W. R. Smith Sur. A-547, Ellenburger test, drilling 5,335 ft.

O. J. Perrin 1 Brumbelow, 1,045 ft. from S and 720 ft. from E lines, H. C. Ayers Sur. A-4, waiting on cement 5,930 ft.

Ben Rankin and Elliott Prod. 1 Stewart, 738 ft. from S and 660 ft. from E lines, Sec. 2799, T.E.&L. Sur., drilled plug, 2,200 ft. oil in hole in 8 hr., est. 125 bbl., preparing to shoot, T.D. 4,527 ft., P.B. 3,520 ft.

Montague County: Benson Bros. 1 Riley, 467 ft. from S and midway between E and W lines of farm, C. Ellis Sur. A-1146, 7,500-ft. rotary test, pits.

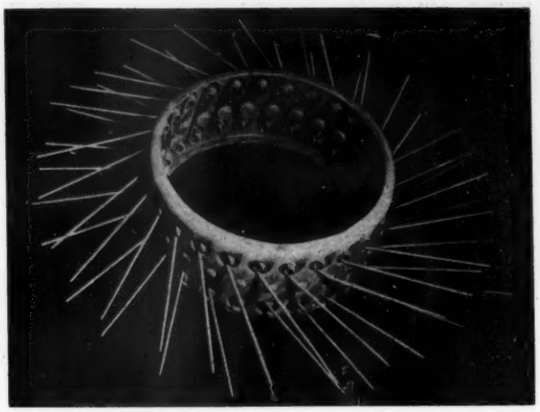
J. A. Chapman 1 Fowler, 330 ft. from S and E lines, J. W. Massie Sur. A-463, drilling 4,040 ft.

Continental 1 Winder, 467 ft. from N and E lines, S

A C M E

WALL CLEANING SCRATCHERS

FOR CEMENT AND LINER JOBS



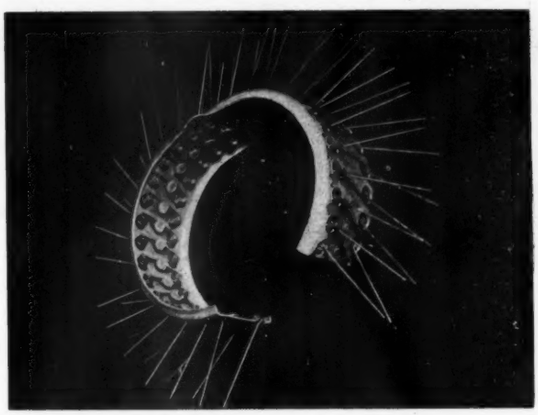
Cement jobs are more often successful when the casing is run with ACME SCRATCHERS.

Mud and cuttings are removed from the wall of the hole, leaving the formation clean and free to bond with the cement.

The casing is centered in the hole, so that cement rises freely and equally on all sides. No channelling. No partial encirclement. You get a tight job with no fluid migration.

It is equally obvious that when liner is run with ACME SCRATCHERS they remove the filter cake from the oil bearing formation, restoring capillary attraction and promoting free, full production.

The ACME SCRATCHER has two rows of tines as illustrated. These oil tempered bristles are spaced to 3/4" centers and each one anchored with a preformed pivot spring at the base, fully protected. In running the scratchers you get a rotating, reversing action. Their scratching and centering functions are never impaired by any tendency for the bristles to strip. The bristle ends wear slightly, for which ample provision is made.



CONSUMER PRICE LIST

API Csg. O.D.	Standard Outer Diam.	Net Price
3 1/2"	8 1/4"	$6.75
4 3/4"	8 1/2"	7.00
5"	9 3/4"	7.00
5 1/2"	10 1/4"	7.25
5 3/4"	10 1/2"	7.25
6 5/8"	10 5/8"	7.50
7"	11 5/8"	7.50
8 1/8"	12 1/8"	7.75
8 5/8"	13 1/4"	8.00
9"	13 1/4"	8.00

Larger sizes on application. Wire length varied at no additional cost for any size casing or hole condition. Prices subject to change.

HOW INSTALLED

ACME WALL CLEANING SCRATCHERS are furnished as per top illustration for standard pipe, or open as per bottom illustration for welding around upset pipe.

The scratchers are usually anchored in place by welding small lugs above and below, allowing for approximately ten inches of up-and-down play. This floating movement of the scratchers keeps the casing or liner stripped clean. However, the scratchers may be welded direct to the pipe, and this procedure is not uncommon. Starting close to the set shoe, the scratchers may be placed as close together as the operator deems necessary for thorough cleaning and positive centering. We suggest a minimum of 36" and a maximum of 10', bearing in mind that the efficiency of the ACME is not impaired by running, even under adverse conditions in the deepest hole.

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Advantage No. 7 of 12 Proved Advantages Listed in Box Below.

***Check* THESE 12 PROVED ADVANTAGES THAT ONLY DRESSERS GIVE YOU**

1. Dresser Couplings eliminate all uncertainty in joint-making.
2. Dresser Couplings permit use of local, untrained labor.
3. Dresser Couplings provide the only time-proved method of absorbing expansion and contraction.
4. Dresser Couplings give greater speed.
5. Dresser Couplings simplify both pipe and joint specifications.
6. Dresser Couplings can be installed regardless of weather, wind, or rain conditions.
7. √ Dresser Couplings eliminate "fussy" operations.
8. Dresser Couplings permit pipe deflection for curves and grades with straight pipe.
9. Dresser Couplings reduce cost of supervision and inspection.
10. Dresser Couplings cut maintenance costs.
11. Dresser Couplings are fool-proof, strong, *permanently* tight.
12. Dresser Couplings eliminate health and fire hazards.

Save money in the end by saving time in the beginning—use Dresser Couplings to eliminate the preliminary "fussy," time-consuming operations of pipe-line construction.

Tedious pipe alignment and spacing, special preparation of pipe ends, hauling up and setting in position of heavy, cumbersome machinery—Dressers eliminate all these waste motions. With a wrench the only tool required, Dressers make possible *immediate,* fast, foolproof installation. No bell holes are required—Dresser flexibility permits safe pipe connecting above the ditch. Dresser flexibility also makes exact surveying and grading unnecessary, keeps field bends and "specials" at a minimum.

To move faster, get going faster! Specify Dressers for your next line!

DRESSER MANUFACTURING COMPANY • BRADFORD, PA.

DRESSER PIPE COUPLINGS

1891 *No Other Joint Has A Comparable Record of Service* 1941

40 of W 80 of N½ of Sec. 4, Limestone C.S.L. Sur., 7,200-ft. test, drilling 2,123 ft.

Walter H. Gant 1 Fowler, 330 ft. from N and E lines, Sec. 59, E.T. Sur., preparing to set casing to 6,238 ft., 30-min. drill-stem test 6,223-38 ft., recovered 1,110 ft. oil and 45 ft. oil-cut mud.

Shell Oil 1 Thomas, 1,255 ft. from W and 467 ft. from S lines, Sec. 95, Kaufman C.S.L. Sur. A-407, P.B. to 3,045 ft., pumped 30 bbl. oil and 1 bbl. water in 6 hr.

Superior Oil 1 Sealy A, 950 ft. from W and 330 ft. from S lines, A. B. Morton Sur. A-1175, S.D. to test, T.D. 6,014 ft.

Throckmorton County: Humble 1 Parrott, 660 ft. from S and W lines, Sec. 957, T.E.&L. Sur., 4,500-ft. test, location.

Young County: L. T. Burns 1 Jeffery, 1,400 ft. from N and E lines, Sec. 47, T.E.&L. Sur., 5,500-ft. test, drilling 3,310 ft.

F. H. E. Oil and Fleming-Kimbell Corp. 1 Graham, SE cor. Sec. 2912, T.E.&L. Sur., 5,000-ft. test, preparing to run squeeze job, T.D. 4,927 ft.

Tom B. Medders 1 Daws, 933 ft. from N, E, S, and W lines of NW of T.E.&L. Sur. 750, 5,500-ft. test, top Ellenburger lime 4,818 ft., setting 5½-in. casing at 4,009 ft., T.D. 4,920 ft.

Caddo Lime Gas Pool Found in Stephens County

FORT WORTH, Tex., Sept. 8.—Highlight of activity in this district was the discovery at the end of the week of a new gas pool in Stephens County. The wildcat was the Orion A. Daniel 1 Max Blach, Section 1283, T.E.&L. Survey, 7 miles northwest of Breckenridge at Hubbard Creek Valley.

The well was completed in the Caddo lime at 3,300 ft. after being plugged back from 4,250 ft. Operator treated the test with 5,000 gal. of acid after which it tested 10,900,000 cu. ft. of gas daily. A heavy spray of oil was also reported. Before acid treatment the well had tested only 750,000 cu. ft. daily.

As the week closed, operators began testing at Lewis Production Co. 1 Huddleston, NW NW NW Lot 6, Grimes C.S.L. Survey. If completed for oil production the test would extend the newest Taylor County discovery area, opened by W. H. Peckman at 1 Perry, ½ mile east and at the same time open a new pay zone for the field.

Pipe has been set at 2,620 ft. on top of saturated sand, which was drilled to 2,623 ft., total depth. Only a slight oil show was encountered in the 2,000-ft. horizon, from which the pool discovery derives production, but intermittent shows were logged below that section to total depth.

Concho County Discovery Plugs Back

The Strawn lime discovery well of Floyd Dodson in southwest Concho County is being plugged back preparatory to reacidizing. Dodson obtained production from 1 Robert Wilson, T. Green Survey, 10 miles southwest of Eden, over a year ago. At that time the test was down 3,759½ ft., in the Strawn lime, making only 8 bbl. of 45.8-gravity oil per hour, swabbing and flowing. Operator deepened to 4,094 ft. in an attempt to increase production only to find water at 3,820 ft. The test was plugged back to 3,819 ft. and now preparations are being made to plug back still farther to 3,756 ft. and reacidize with 5,000 gal.

Eastland County Wildcat Staked

Seven miles southwest of the town of Ranger, L. A. Thompson has staked a 1,400-ft. wildcat as 1 A. E. Fox. Location is on a 40-acre lease in Block 49, McLennan C.S.L. Survey. Drilling is expected to start in the near future.

WEST CENTRAL TEXAS COMPLETIONS

Wildcats

Callahan County: P. H. Lowellyn 1 McLain, 1,700 ft. from E and 200 ft. from N lines, A. Cherry Sur. 332, dry at 602 ft.

R. H. Roark 1 Harris, 6,500 ft. from S and 675 ft. from E lines, Dyson Sur. 751, dry at 342 ft.

Comanche County: C. D. Lane 1 Auvenshire, 600 ft. from W and 150 ft. from S lines, NE Sec. 45, E.T. Sur., show gas 1,685-86 ft., dry at 1,690 ft.

Eastland County: Bartrug & Bell 1 Crawley, 1,000 ft. from N and 220 ft. from E lines, Lot 5, W. Van Norman Sur., dry at 1,007 ft.

Fisher County: Stephenson 1 Humphries, NW NW Sec. 49, H.T.&B. Sur., show oil 3,018-35 ft., dry at 3,035 ft.

Jones County: Danciger Oil & Ref. 1 E. H. Reeves, 330 ft. from W and 1,600 ft. from S lines of 460½-ac. farm in E½ Maria Rita Longoria Sur. 258, show oil 2,405-08 ft., 2,608-10 ft., dry at 2,730 ft.

Fields

Brownwood gas, Brown County: Ed Selvidge 1 Rogan, 201,000 cu. ft. gas per day, top Marble Falls 1,382 ft., 3,000 gal. acid 1,384-1,516 ft.

Cook, Shackelford County: Roeser & Pendleton and Continental 6-A-118 Cook, 33 bbl. in 24 hr., 1,683-97 ft.

Crosscut, Brown County: Heltzell & Mendenhall 1 Edington, dry at 1,307 ft.

Pottsville gas, Hamilton County: Lone Star Gas 1 Marwitz, 75,500,000 cu. ft. gas per day, top Marble Falls 2,517 ft., 1,000 gal. acid, 2,540-2,641 ft.

South McMillan, Runnels County: H. Price 1 King, temporarily abandoned at 710 ft.

(Continued on Page 86)

Hawkins Northeast Extension Appears Probable

By D. H. STORMONT

DALLAS, Tex., Sept. 8.—There was one bright spot in this third week of comparative inactivity. On the east side of the Hawkins field Roger Lacy 1 Pouncey, J. P. Mosley Survey, appeared to have assured the pool a northeast extension. The outpost logged 123 ft. of Woodbine sand pay and set casing at 4,780 ft., total depth, still in the sand.

This is the first of five tests the operator has planned for the 100-acre tract he holds in this sector of Wood County. No. 2 Pouncey is rigging up and plans are being made for an early start on the other three.

More Wildcats Staked in District

In spite of the fact that failures dominated the completion list, leasing and blocking again hit the brisk pace set earlier in the summer and new wildcat locations were announced in five counties.

Major oil companies and independent operators were actively engaged in some 8 or 10 counties throughout the district assembling spreads for possible future drilling. Buyers were busiest in Wood County where T. A. Wright has added 1,300 acres to his holdings, making a total of almost 3,000 acres. In the same county, Amerada Petroleum Corp. has taken 1,420 acres, Magnolia Petroleum Co. 2,100 acres and R. J. Whalen 660 acres. Other counties in which leasing operators were busy are Upshur, Navarro, Limestone, Hunt, Robertson and Smith.

Four other wildcat locations were announced and a Paluxy test will be made in a Woodbine sand failure in the Gregg County portion of the East Texas field. The Paluxy test will be made by C. R. Starnes at a test on the A. Money lease in the B. A. van Sickle Survey. No details have been released but it is reported that some pay promises were found in the Paluxy just below 5,200 ft. Nearest Paluxy production is 6 miles west in the Chapel Hill sector.

In Limestone County, near Mexia, Lyle & Phillips have staked location for 1 J. L. Thompson as 1,408 ft. from the southwest and 150 ft. from the southeast lines of a 215-acre tract in the P. Varella Survey.

The long-awaited Woodbine sand test in the Stewards Mill area north of Fairfield in Freestone County will soon be under way. The wildcat is J. L. Collins & Co. 1 W. W. Steward, 1,400 ft. from the west and 500 ft. from the north lines of a 100-acre lease in the J. James Survey. This test is ⅜ mile north of a failure drilled by the Arkansas Fuel Co. which found shows but which could not be completed.

A new wildcat for Angelina County was staked this week by K. L. McHenry, 6 miles southwest of Huntington. A Wilcox test, 1 Southern Pine Lumber Co., is spotted 11,220 ft. from the north and 1,320 ft. from the east lines of the J. G. W. Clayton Survey.

On a 15,000-acre block, carefully detailed by seismograph, in southeastern Henderson County, Amos & Perry are drilling 1 Smith, Maria Trinidad Equis Survey. At last reports the test was drilling below 1,212 ft.

Two Woodbine sand wildcat tests are being planned for Wood County but final details had not been announced at the end of the week.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil: East Texas field	9	*399	32,409
Hawkins	4	1,400	19,357
Dry: Fields	2	.....	7,632
Wildcats	5	.....	23,056
Total	20	.....	82,454

*1-hour gage.

EASTERN TEXAS COMPLETIONS

Wildcats

Cherokee County: Bobby Manziel 1 Limber Log School, 4,100 ft. from S and 9,550 ft. from E lines. J. Vaughn Sur., 4 mi. SW of Bullard, dry at 5,050 ft.

Gregg County: Roger Lacy 1 Flannigan, 9,450 ft. from S and 1,555 ft. from W lines of H. Edwards Sur., 8 mi. due S of Willow Springs, dry at 7,491 ft.

Navarro County: J. B. Daniels 1 Jones, 150 ft. from NW and NE lines 100-ac. tract, T. J. Jordan Sur., dry at 3,248 ft.

Topaz Oil 5 Trammell, A. C. Keiser Sur., Bazzette area, top Austin 2,170 ft., Woodbine 3,908 ft., dry at 3,158 ft.

Rusk County: E. L. Baker 1-A Evans, W. H. Walters Sur., 453 ft. from N and 2,402 ft. from W lines, J. Evans 115.25-ac. tract, ¾ mi. N New Salem, abandoned location.

G. C. Grasty 1 Kangarga Bros., 467 ft. from SE and 1,170 ft. from NE lines 100-ac. tract, T. Wood Sur., 8 mi. N and W of Laneville, top Austin 3,888 ft., Woodbine 4,065 ft., water sand 4,076 ft., dry at 4,109 ft.

EASTERN TEXAS ACTIVE WILDCATS

Anderson County: Cecil Stein 2 Southern Pine Lumber, 475 ft. from N and 467 ft. from W lines W. Rogers Sur., S.D. 476 ft.

Angelina County: K. J. McHenry 1 Southern Pine Lumber, 11,220 ft. from N and 1,320 ft. from E lines, J. G. W. Clayton Sur., cleaning out, first report.

Camp County: Talco Asphalt Co. 1 McKenzie, L. William Sur., ¾ mile W of Pittsburg field, drilling 8,200 ft.

Freestone County: J. L. Collins & Co. 1 Steward, 1,400

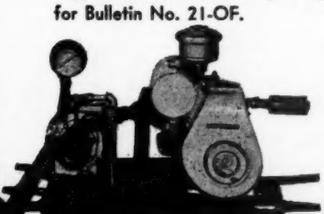
(Continued on Page 71)

HYDRAULIC INSTALLATION

Insures The Tightest Possible Grip On Drill Pipe

2¼" I.D. for use on 4½" drill pipe.

Installation of Grizzly "Hug-Tite" Protectors and Stabilizers with special equipment, operated by tremendous hydraulic pressure, insures the tightest grip on the pipe that is possible by any method. It permits making rubbers of the toughest, strongest stock . . . as tough as rubber can be made; and with a much smaller inside diameter . . . half that of the drill pipe. The result is minimum tendency to move from positions installed, plus long life and better protection under the most severe service. . . . Ask your supply dealer about Grizzly "Hug-Tite," or write your nearest Grizzly office for Bulletin No. 21-OF.



Left: Part of field equipment used for installing Grizzly "Hug-Tite" Drill Pipe Protectors and Stabilizers at the well . . . as drill pipe is run in the hole, or while it is on the pipe rack. Saves time, labor and money, and eliminates many drilling troubles.

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DRILL PIPE PROTECTORS & STABILIZERS

CALIFORNIA FIELD REPORT

Third Test at Raisin City Proves Large Producer

By L. P. STOCKMAN

LOS ANGELES, Calif., Sept. 8.—A test made this week by Shell Oil Co., Inc., on 28-18 Properties, Inc., 18-15s-18e, indicates the possibility that the Raisin City field which the company discovered in Fresno County a few months ago may prove to be a field of primary importance. This formation test was made at 5,022-49 ft. and with the tester open for 97 minutes the well flowed at a daily rate of 2,400 bbl. of 23.5-gravity oil and only a small cut that was cleaning up when the tester was closed upon conclusion of the test. This is the largest flow yet recorded at Raisin City and appears to sustain the seismograph survey which indicated that the top of the structure was located north and northwest of Shell's exploratory well. It will be noted that 28-18 Properties, Inc., only tested 27 ft. of formation in the bottom of the hole. It is generally believed that Shell's prospecting work to date has been located in an area that is probably rather well down structure which may account for the relatively small penetration taken and the somewhat disappointing showing of the field to date.

Shell's first wildcat in the Raisin City field proved to be a gas well although it did make about 50 bbl. of high-gravity oil that indicated it was more or less of a condensate. The company then moved south and finished a better producing well but found that the structure was dipping toward the south. Shell then moved north and this well, the third test drilled in the field to date, is 28-18 Properties, Inc., which has just made a favorable formation test. There are two possible productive zones in the Raisin City field although all three wells to date have either been finished in the lower zone or are scheduled to be completed in that horizon. In 28-18 Properties, Inc., Shell made a formation test of the upper zone at 4,765-95 ft. but with the tester open for 71 minutes the recovery consisted of 132 ft. of muddy salt water testing 1,080 grains per gallon, a small amount of gas and some mud. It is interesting to note that the test of the lower zone in 28-18 Properties, Inc., is the best made to date and tends to indicate that the apex of the structure is north of Shell's original location. In addition to Shell Oil Co., Inc., which made the discovery, there are a number of operators who may get into the play but this remains to be determined as the limits of production are wide open to the north, west, and east. The southern limits appear to be located not far south of Shell's second test at Raisin City. It would seem likely that operators would proceed slowly with development work but there are one or two leases that demand drilling within a few months irrespective of whether or not a well has been completed within the usually specified limits of 330 ft. from a property line. This is the first field of any great consequence that has been found north of Coalinga and will no doubt lead to additional wildcat work in that general area.

AVERAGE DAILY PRODUCTION

	Sept. 6	Aug. 30
Wilmington	86,075	84,325
Midway-Sunset	51,150	43,250
Coalinga	39,800	39,625
Long Beach	38,675	39,750
Ventura Avenue	38,425	37,150
Kettleman North Dome	38,225	38,625
Huntington Beach	33,000	32,775
Dominguez	23,250	23,125
Santa Fe Springs	22,775	23,425
Santa Maria Valley	15,250	16,875

Midway Foothills Test Makes Good Showing

North American Oil Consolidated's wildcat test in the hills west of Taft in the Midway-Sunset field of Kern County has become the state's most promising wildcat under way at present due to some excellent showings of oil and gas. Company officials are quite sanguine over the outlook but are conservative with respect to the possibility of opening up a new field at this point. A drilling break was noted a week or so ago at 8,849 ft. and streaks of excellent porous sand containing oil were logged at 8,877-8,920 ft. This 43-ft. interval was not all solid oil sand but it greatly improved the outlook because this is a usual characteristic of the Midway-Sunset field as many of the several productive sections of the field showed oil sands above the main sand bodies. This well is located about 3 miles west of nearest production and hence will result in the discovery of new accumulation if it is completed as a commercial producer.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: San Joaquin Valley	4	4,805	20,745
Coastal district	1	823	6,465
Los Angeles Basin	5	1,998	20,603
Gas wells: Rio Vista	1	.....	4,282
Dry holes: Wildcats	1	.....	3,786
Total	12		55,781

Gas Fields

Development work in California gas fields which has been by spurts and at infrequent intervals is at present centered in the north central part of the state. During the current week Superior Oil Co. completed a new gas well in the Rio Vista gas field in Solano County and Standard Oil Co. is drilling two wells that may be completed in the near future. In the McDonald Island gas field, Standard is being temporarily delayed in 2 Mabry in 31-2n-5e at 5,285 ft. due to mechanical trouble. Standard recently staked location for 3 Blewett Community in the Vernalis field in San Joaquin County but has not yet moved in drilling equipment. Amerada Petroleum Corp. has a gas test under way in Yolo County and Standard Oil Co. is drilling ahead in 1-1 Tippetts, a wildcat gas test in the Rumsey Hills section of Yolo County. Trico Oil & Gas Co., which discovered the Delano gas field, is drilling a test for gas in the Petaluma district in Sonoma County in 30-5n-6w and secured a strong blow of gas at the shallow depth of 1,159-1,215 ft.

SAN JOAQUIN VALLEY COMPLETIONS

Coalinga Southeast, Fresno County: Standard 37-31-B fee, 31-19s-16e, flowed 3,650 bbl., 29.1-gravity, 0.2 per cent cut, 2,698,000 cu. ft. gas, 52/64-in. bean, pressures 800/1,300 lb., T.D. 8,096 ft., perf. 7,642-8,090 ft., completed in Gatchell zone of Eocene age, Kreyenhagen 6,270 ft., green sand 7,509 ft., Gatchell oil sand 7,650-8,095 ft., bottomed in Gatchell silt.

Delano wildcat district, Kern County: Associated 46 Quinn, 8-25s-27e, abandoned at 3,786 ft., bottomed in granite basement, top Vedder zone of Miocene age 3,200 ft., top Walker zone 3,205 ft.

Fruitvale, Kern County: Western Gulf 35-B Kern County Land, 14-29s-27e, flowed 750 bbl., 21.9-gravity, 2 per cent cut, 30/64-in. bean, pressures 90/400 lb., T.D. 3,205 ft., perf. 3,143-83 ft., recompleted in Kernco zone of Pliocene age after being deepened from 3,013 ft., bottomed in oil sand.

Kern Front, Kern County: Republic Pet. Co. 13 Strassburger, 24-28s-27e, pumped 250 bbl., 14.2-gravity, 5 per cent cut, T.D. 1,856 ft., perf. 1,672-1,856 ft., completed in Kernco zone of Pliocene age.

Midway-Sunset, Kern County: Willmax Oil 11 Midway, 16-32s-23e, pumped 15 bbl., 17.7-gravity, 10 per cent cut, T.D. 1,440 ft., perf. 938-1,438 ft., completed in upper Midway zone of Pliocene age.

Rio Vista, Solano County: Superior 1 McCormack, 9-3n-3e, flowed 15,000,000 cu. ft. gas, 48/64-in. bean, S.I. pressures 1,707/1,707 lb., T.D. 4,282 ft., perf. 4,215-75 ft., completed in productive Cretaceous zone, green sand 4,032 ft., white sand 4,182 ft.

Tupman, Kern County: Richfield 81-33-B Kern County Land, 33-30s-25e, flowed 890 bbl., 32.1-gravity, 3 per cent cut, 925,000 cu. ft. gas, two 96/64-in. beans, pressures 150/800 lb., T.D. 9,353 ft., perf. 8,942-9,062 ft., 9,106-9,348 ft., completed in Stevens oil zone of Miocene age 8,705-9,353 ft., bottomed in Stevens oil sand.

SAN JOAQUIN VALLEY OUTPOSTS

Belridge, Kern County: Belridge Oil Co. 55-26 fee, 26-27s-20e, T.D. 9,801 ft. in gray siltstone and hard sand, running water tester, top Eocene 9,545 ft., is now below top of productive Wagonwheel zone of Eocene age, elev. 658 ft.

Buena Vista Hills, Kern County: Honolulu 25-P fee, 10-32s-24e, T.D. 14,622 ft., P.B. 11,093 ft., recovered stuck drill pipe to 12,880 ft., cemented 7-in. blank liner 8,016 ft., shows fair blow of gas, very little oil, elev. 916 ft.

Canal, Kern County: Shell 44-14-A Kern County Land, 14-30s-25e, drilling in oil sand 8,442 ft., will be first Vedder zone test in field.

Elk Hills, Kern County: Standard 42-31-S fee, 31-30s-24e, T.D. 8,021 ft. in shale, lost drill pipe, redrilled to 5,935 ft., will try to produce, elev. 1,122 ft.

Standard 45-19-S fee, 19-30s-24e, drilling 10,200 ft. in sand and shale, elev. 707 ft.

Standard 76-33-S fee, 33-30s-24e, drilling 3,291 ft. in sand, elev. 996 ft.

Greeley, South, Kern County: A. N. Macrate 1 Haberfeld, 32-29s-26e, drilling 7,965 ft. in sand and shale, elev. 338 ft.

Kern Front, Kern County: Richfield 1 Kraemer, 34-28s-27e, location staked.

Kettleman North Dome, Kings County: Standard 1-1-U fee, 1-23s-18e, drilling 12,884 ft. in hard gray sand showing considerable gas, P.B. 11,550 ft., to redrill, elev. 693 ft.

Midway-Sunset, Kern County: North American Oil Consolidated 1-28 W.P., 28-32s-23e, T.D. 9,000 ft. in shale with streaks of tight impervious sand and siltstone, elev. 1,560 ft.

Mountain View, Kern County: Richfield 1 M.V., 18-30s-28e, drilling 5,150 ft. in sand, elev. 375 ft.

Paloma, Kern County: Union 81 Morgan, 14-32s-26e, drilling 10,770 ft. in sandy shale, looks bad, elev. 306 ft.

Western Gulf 12-7 Symons, 7-32s-27e, drilling 5,486 ft. in sand, is most easterly well in field.

Raisin City, Fresno County: Shell 28-18 Properties, Inc., 18-15s-18e, drilling 5,049 ft. in oil sand and shale, formation test open 97 minutes, well flowed daily rate of 2,400 bbl. of 23-gravity oil with small cut, elev. 201 ft.

Union Avenue, Kern County: Hancock Oil Co. 1 Watts, 8-30s-28e, drilling 5,432 ft. in sand and shale.

SAN JOAQUIN VALLEY WILDCATS

Altamont district, Alameda County: Shell 1 Nissen, 7-2s-3e, drilling 3,234 ft. in sand and shale, elev. 1,023 ft.

Belridge district, Kern County: Sec. 27 Oil Co. 1 Aslin, 27-28s-22e, drilling 822 ft. in shale.

Burrel district, Fresno County: General Pet. 1 Burrel, 2-17s-18e, drilling and spot coring in hard shale 8,330 ft., showing gas, formation possibly Eocene, elev. 210 ft.

Buttonwillow district, Kern County: Texas 47-15 S.P., 15-29s-24e, T.D. 12,138 ft., P.B. 4,700 ft., tested hard tight Stevens oil sand and shale, fair blow, fluid 90 per cent water, 5 per cent oil, will probably abandon, elev. 297 ft.

Superior 13 Kern County Land, 18-29s-25e, drilling and spot coring in sand and shale 13,994 ft., coring for Vedder sand, elev. 313 ft.

Chowchilla district, Madera County: Shell 74-9 Chowchilla Farms, 9-11s-14w, drilling 5,350 ft. in sand.

Delhi district, Yolo County: Amerada 1 Finance Construction Co., 4-6n-3e, drilling 6,596 ft. in sandy shale, elev. 8 ft.

Delano district, Kern County: Shell 52-21 Bell, 21-25s-26e, location staked in NW part of section.

Devils Den district, Kern County: R. S. Miesse 1 Jacquelyn, 26-25s-18e, drilling 450 ft. in oil sand and shale.

Dyer Creek district, Kern County: Shell 56-X-11 Smith, 11-26s-27e, drilling 2,271 ft. in sand.

Helm district, Fresno County: Amerada 31-34 Clover, 34-16s-17e, drilling 7,960 ft. in sand and hard Kreyenhagen shale, elev. 203 ft.

Jacalitos district, Fresno County: Wilshire-Annex 33-26-E, drilling 4,280 ft. in sand and shale, elev. 941 ft.

McDonald anticline district, Kern County: Texas 1 Anderson, 19-28s-20e, rigging up and preparing to spud.

Panoche district, Fresno County: Richfield 1 Stone-Bragg, 33-13s-12e, drilling 5,281 ft. in sand, elev. 358 ft.

Petaluma district, Sonoma County: Trico O. & G. Co. 1 Miller, 30-5n-6w, drilling in sand 1,220 ft., strong gas blow 1,159-1,215 ft. on formation test, elev. 540 ft.

Reef Ridge district, Kings County: Blair Oil Co. 1-B Ridge, 24-23s-16e, drilling 1,821 ft. in shale, elev. 1,380 ft.

Rio Vista district, Solano County: Standard 1 Suisun Comm., 36-4n-2w, drilling 4,530 ft. in sand and shale, objective is Cretaceous gas zone, formation test 2,755-2,830 ft., no blow.

Standard 1 Productive Prop., 23-3n-3e, drilling 3,992 ft. in sandy shale, elev. 5 ft.

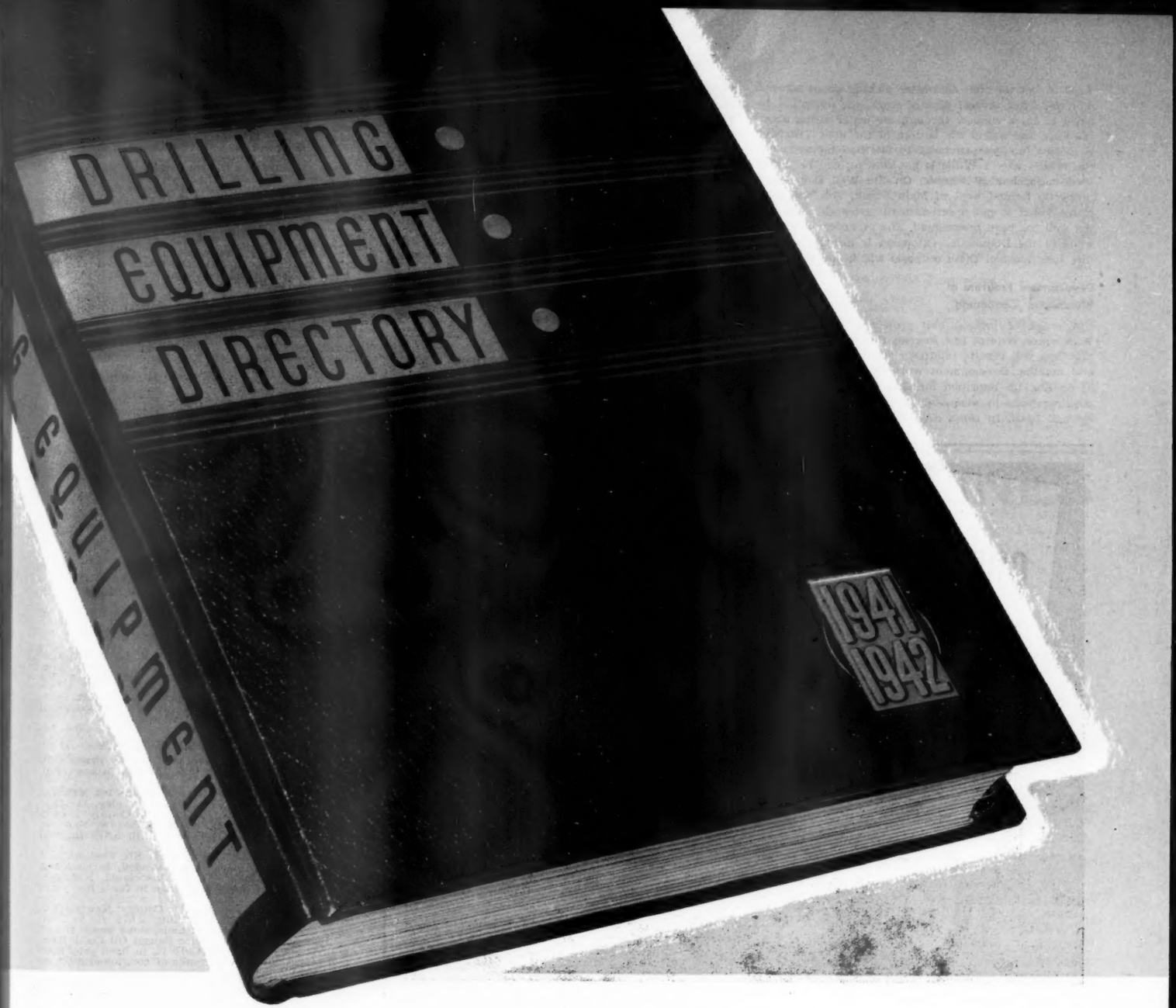
Rumsey Hills district, Yolo County: Standard 1-1 Tippetts, 15-12n-3w, drilling in sand 2,040 ft., elev. 1,480 ft.

Shafter district, Kern County: Continental 2-G Kern County Land, 35-27s-24e, T.D. 12,935 ft. in gray sand, 4¾-in. casing cemented 12,807 ft., core recovery poor, 3-ft. oil sand recovered in 30-ft. interval cored, balance lost, may be either Rio Bravo or Vedder zone of Miocene age, flowed salt water and little oil, continuing test, elev. 327 ft.

General Pet. 51-15 S.P., 15-28s-24e, building rig.

Drilling in Los Angeles Basin Continues Decline

Drilling operations in Los Angeles Basin fields have been on a slow but consistent decline for the past several weeks and there is nothing to indicate that development work will show very much of a change during the next month. A pinch is being felt in securing drilling and production equipment and this is expected to become more acute as time goes on. There will be no attempt to restrict wildcat drilling in potentially productive areas but it is more than likely that development work in proved fields will be retarded. This is particularly true of fields where drilling is not necessary or required by lease requirements. The decline in drilling operations in Los Angeles Basin reflects practical conclusion of development work in the Dominguez extension where at present only three wells remain to be finished. At Dominguez, Hiles & Crawford put 1 Willis on a compressor early in the week at



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7,247 ft. but the well died after making about 200 bbl. of fluid. After several days of work, the operators decided to cut a window through the water string above the shoe and redrill the bottom of the hole. This well is located in close proximity to two flowing wells and the reason why 1 Willis is not flowing can be attributed to mechanical trouble. On the Well Developers' property, located west of Main Street, Hileford Associates failed to get a satisfactory water shut off and the well has been recemented. The pumping period for wells in the Dominguez extension is nearing and before long most of these outposts will be on the beam.

Development Program at Wilmington Continuing

A check of present and projected drilling in the Wilmington field of Los Angeles County indicates that this field will remain relatively active for another several months. Development work in this field consists of drilling up undrilled locations and the drilling of required holes to adequately produce each zone on an acreage basis. In some cases the Terminal zones are being produced on the basis of 1 well to 10 acres and in other instances on the basis of 1 well to 20 acres. This is because in many cases operators drilled line wells first and are now drilling inside locations. Recent completions indicate that attempts are under way to drill the number of locations required in the Ranger zone to give this zone 1 well to 10 acres. Very few multiple-zone completions have been made in the Wilmington field during the past year and much of the reconditioning work being done consists of cleaning out holes and gravel packing around the liner perforations. This is particularly true of wells producing from the Ranger zone as gravel packing has proved beneficial in keeping back the fine gray sand that usually accompanies the oil. This reconditioning work has had a tendency to keep production at a relatively high level and prevent rapid decline of production.

LOS ANGELES BASIN COMPLETIONS

Huntington Beach, Orange County: H. C. Morton 2 Brooks, 34-5s-11w, pumped 60 bbl., 23.6-gravity, 3 per cent cut, T.D. 4,693 ft., perf. 4,443-70 ft., 4,562-82 ft., completed in Middle zone of Pliocene age.

Seal Beach, Orange County: Hellman estate 11 fee, 11-5s-12w, flowed 1,214 bbl., 28.3-gravity, 0.1 per cent cut, 1,200,000 cu. ft. gas, 38/64-in. bean, pressures 400/300 lb., T.D. 5,677 ft., perf. 5,077-5,112 ft., 5,169-5,227 ft., 5,355-98 ft., 5,455-5,642 ft., completed in Selover zone of Pliocene age.

Wilmington, Los Angeles County: Atlantic Oil Co. 1 Water & Power, 33-4s-13w, pumped 200 bbl., 15.1-gravity, 5 per cent cut, T.D. 3,570 ft., perf. at intervals 2,630-3,569 ft., completed in Ranger zone.

Continental Dev. Co. 17 Flood Control, 32-4s-13w, pumped 165 bbl., 14.7-gravity, 2 per cent cut, T.D. 3,148 ft., perf. 2,843-3,143 ft., completed in Ranger zone.

Herley & Kelley 4-W Coastline, 32-4s-13w, pumped 132 bbl., 16.1-gravity, 5 per cent cut, T.D. 3,720 ft., redrilled to 3,720 ft., perf. 3,039-3,140 ft., 3,215-80 ft., 3,470-3,709 ft., recompleted in Ranger zone.

Union Pacific R. R. 191 fee, 4-5s-13w, flowed 359 bbl., 17.2-gravity, 1 per cent cut, 28/64-in. bean, pressures 850/500 lb., T.D. 3,515 ft., perf. 2,764-2,827 ft., 2,841-87 ft., 2,907-55 ft., 3,207-3,335 ft., 3,374-3,493 ft., completed in Ranger zone.

LOS ANGELES BASIN OUTPOSTS OR DEEP TESTS

Dominguez, Los Angeles County: Hileford Associates 1 Developers, 29-3s-13w, T.D. 7,301 ft. in oil sand, tested wet, recemented.

Clareborn Oil Co. 1 Hiles, 29-3s-13w, drilling 7,210 ft. in sand and shale.

Hiles-Crawford and associates 1 Willis, 29-3s-13w, tested wet 3 times at 7,253 ft., cleaned out to 7,247 ft., plugged to 7,233 ft., installed compressor, would not kick over, will redrill, elev. 35 ft.

Inglewood, Los Angeles County: R. R. Bush Oil Co. 1 Smith, 7-2s-14w, T.D. 8,673 ft. in sand and shale, P.B. 8,385 ft., cleaned out to 8,390 ft., Nodular shale 8,100 ft., located water below 8,400 ft., will replug, elev. 185 ft.

Federal Oil Co. 3 Smith, 7-2s-14w, drilling in sand and shale 6,691 ft.

Hogan Pet. Co. 2-A Machado, 7-2s-14w, drilling 7,721 ft. in sand and shale, Nodular shale 7,686 ft.

Jergins Oil Co. 2 Howard, 7-2s-14w, rigging up and preparing to spud.

Standard 2 Vickers, 7-2s-14w, drilling 4,281 ft. in sand and shale.

Standard 2-13 Vickers, 7-2s-14w, rig.

Texas 8 Smith, 7-2s-14w, drilling 8,040 ft. in oil sand, top Nodular 7,840 ft., elev. 242 ft.

Associated 70 Vickers, 7-2s-14w, drilling 6,981 ft. in sand and shale, elev. 229 ft.

Potrero, Los Angeles County: Associated 5 Cypress, 34-2s-14w, rig.

Rosecrans, Los Angeles County: R. S. Lytle 2 Anderson, 1-3s-14w, drilling 7,440 ft. in sand, 13⅜-in. surface pipe froze and cemented 998 ft., elev. 233 ft.

Rankin & Williams 1 Athens, 7-3s-13w, T.D. 9,490 ft. in gray sand and shale containing occasional streaks of oil sand, may land casing.

LOS ANGELES BASIN WILDCATS

Chino district, San Bernardino County: Prado Pet. Corp. 1 Lamp, 31-2s-7w, T.D. 1,730 ft. in sand, P.B. 1,500 ft., elev. 560 ft.

La Mirada district, Orange County: Texas 1-A McNally, 22-3s-10w, drilling 4,770 ft. in sand, elev. 112 ft.

Manhattan Beach district, Los Angeles County: Dominguez Ext. Oil Co. 1 Sunset, 19-3s-14w, redrilled 5,926 ft., streaks of oil sand, P.B. 5,877 ft., will test, elev. 135 ft.

Mines district, Los Angeles County: Six Companies 1 Poso Seco, 2-3s-15w, location graded, is joint test by Standard, Union, Texas, Associated, Richfield, and Shell which bought acreage in fee a few years ago.

Palos Verdes district, Los Angeles County: Newton Dev. Co. 1 P.V., 13-5s-15w, drilling 2,672 ft. in hard sand and shale with cable tools, some basalt found.

Puente district, Orange County: Sunset Oil Co. 1 Baldwin, 11-2s-11w, drilling 4,010 ft. in hard gray sand and black shale with streaks of conglomerate, may suspend work.

Rio Hondo district, Los Angeles County: Potrero Oil Co. 1 Newman, 32-1s-11w, rig, hauling in equipment, located 1 mi. north of eastern tip of Montebello field.

Seal Beach, Orange County: Basin Oil Co. 1 Heller, 6-5s-11w, location, joint test of South Basin Oil Co., Johnson Drilling Co., and Allied Pet. Co.

White's Point district, Los Angeles County: Surety Holding Co. 1 Sepulveda, 22-5s-14w, drilling in sand and shale 967 ft., elev. 156 ft.

Whittier district, Los Angeles County: Continental Oil Co. 1 Turnbull, 13-2s-11w, drilling 2,950 ft. in sand and shale, formation test, packer 2,341 ft., recovered fresh water, elev. 535 ft.

Los Nietos Valley Oil Co. 1 Los Nietos, 29-2s-11w, rig material on ground.

Wilmington district, Los Angeles County: J. F. Wilcox 1 North, 20-4s-13w, drilling 3,603 ft. in shale with streaks of oil sand, making pumping test, found leak in casing, elev. 46 ft.

West Cat Canyon Completion Raises Interesting Possibilities

Standard Oil Co. has completed 2 Los Flores in the Cat Canyon field of Santa Barbara County, pumping 823 bbl. of clean 13.1-gravity oil per day from the Miocene with bottom of the hole at 6,465 ft. This is Standard's second completion on the Los Flores property in West Cat Canyon and work has already started on a third well. Very little data are available regarding structural conditions in this area but it is thought that Standard's Los Flores lease is located quite far out on the west flank of an anticlinal structure. It remains to be determined whether faulting plays any important part in the structural trap. There are a number of interesting possibilities but the most tenable is that the Los Flores property is located on a flank of the old Cat Canyon field. If the latter theory proves correct it will mean that Union Oil Co. has a very valuable reserve in this field. Standard did not develop Pliocene production and for this reason it is logical to assume

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that Union will find both Pliocene and Miocene production over a large area. In addition to Union, a number of other operators will also benefit greatly by the extension and deeper drilling by Standard Oil Co. in the West Cat Canyon field. In addition to the Bell property of several thousand acres, Union's Blockman and Los Flores leases should be found productive and Palmer Union's 160 acres adjoining Union's Blockman should also prove productive in the Miocene. A. E. Bell Corp., which recently acquired acreage north of the Blockman lease, may also find commercial production in the Miocene.

Rincon Deep Test Not Holding Up Well

Chanslor-Canfield Midway Oil Co.'s deep test in the Rincon field, 9-C Hobson in 17-3n-24w, is not holding up in any too good shape as it is flowing 160 bbl. of 26.1-gravity oil per day through a 40/64-in. bean. The oil sand found in this deep test lacked sufficient porosity and permeability to result in large production of crude oil or natural gas. At present gas production only approximates 50,000 cu. ft. daily through a 40/64-in. bean. This well is producing from an unusually large amount of formation and should have shown much higher production. The deep drilling record for the Rincon field, heretofore held by 9-C Hobson, is now held by 3-C Hobson which is at present 60 ft. deeper than the former. This is the deepest drilled hole in the Rincon field to date and the present formation is a hard tight oil sand. If this formation continues 3-C Hobson, like 9-C Hobson, will show relatively small production. Western Gulf Oil Co. has found it advisable to set a whipstock in 1 Rubel in the Camulus district of Ventura County in order to facilitate redrilling operations. Whipstock has been set at 2,450 ft. and bottom of the original hole is 3,506 ft.

Pico Wildcat Runs High

On the major Pico anticline in the Newhall section of Los Angeles County, Aztec Oil Co. is rotating ahead at 5,150 ft. in a hard shale. Top of the Miocene was logged in this well at 4,700 ft., very close to where it had been expected, which means that the bit is into the Miocene 450 ft. The well's log indicates that it is correlating almost 2,500 ft. higher than the Newhall-Potrero field but it remains to be seen whether this condition continues. St. Anthony Oil Co., drilling a few miles away from the Aztec wildcat but considered off structure, suspended work after reaching a depth of 5,416 ft. This well had minor showings but found no sand sufficiently thick to justify making a formation test. Drilling operations are proceeding in the Oak Canyon field in the Newhall-Castaic region and the next completion in this field should be recorded within the next 2 weeks. Bankline Oil Co. found the first Modelo zone in this field at 6,101-6,213 ft. but will prospect ahead before making a production test. In Santa Barbara County, Barnsdall Oil Co. has concluded drilling operations on 88-12 State tideland in the Elwood field and is preparing to make a production test. This new well showed it was good for about 250 bbl. per day on a formation test along with 6,000,000 cu. ft. of gas. Bottom of the hole is 4,300 ft. with a plug set at 4,219 ft.

COASTAL DISTRICT COMPLETIONS

Cat Canyon, Santa Barbara County: Standard 2 Los Flores, 29-9n-33w, pumped 823 bbl., 13.1-gravity, 2 per cent cut, 75,000 cu. ft. gas, T.D. 6,465 ft., perf. 6,261-6,464 ft., completed in Cat Canyon zone of Miocene age, top of chert zone 5,960 ft.

COASTAL DISTRICT WILDCATS

Aliso Canyon district, Los Angeles County: Associated 1 Mission, 26-3n-16w, drilling 3,262 ft. in sand, elev. 2,709 ft.
Castaic district, Los Angeles County: Texas 1 Newhall Land & Farming, 11-4s-17w, location.
Cat Canyon district, Santa Barbara County: A. E. Bell 1 Gilmore, 23-9n-33w, drilling 5,291 ft. in sand.
Standard 3 Flores, 27-9n-33w, drilling in sand and shale 1,182 ft., elev. 1,065 ft.
Union 12 Bell, 27-9n-33w, rig, is offset to Standard's 2 Los Flores.
Camulos ranch, Ventura County: Western Gulf 1 Rubel, 22-4n-18w, drilling in hard sand and shale 3,506 ft., P.B. 2,500 ft. to straighten hole, elev. 752 ft.
Chatsworth district, Los Angeles County: Imperial Oil Co. 1 Chatsworth, 25-2n-17w, rig.
Elwood district, Santa Barbara County: Barnsdall-Richfield 88-12 State, tideland, T.D. 4,300 ft., P.B. 4,219

(Continued on Page 81)

Eastern Texas Fields

(Continued from Page 67)

ft. from W and 500 ft. from N lines 100-ac. lease out of 241.6 and 220-ac. tracts, J. James Sur., location, first report.
Westbrook & Whistler 1 Coleman, H. Howard Sur., 2½ mi. SW of Streetman, drilling 3,143 ft.
Henderson County: British American Oil 1 Young, J. Rice Sur., 7½ mi. SW of Athens, P.B. from 7,836 ft. to 7,750 ft., will perf. casing 7,731-39 ft.
Lone Star Gas 2 Allen, 3,490 ft. from W and 4,780 ft. from S lines J. Lawson Sur., drilling 7,030 ft.
Lamar County: Whitehead & Dahl 1 Barr, old well drilling deeper, 80 ft. N and 442 ft. W of NE cor. I. Boren Sur., old T.D. 2,375 ft., drilling 3,510 ft.
Limestone County: Farrell Drlg. 1 Gilliam, 1,536 ft. from NW and 1,426 ft. and NE lines Spence Sur., set 10¾-in. casing at 186 ft., first report.
Lytle & Phillips 1 Desenberg, 150 ft. from NW and 445 ft. from SW lines 90-ac. tract in P. Varela Sur., perf. casing 3,182-98 ft., testing.
B. F. Weekly A-2 Barron, 660 ft. out of NE cor. 320-ac. tract in E. Mabry Sur., coring 4,700 ft.
Robertson County: R. O. Pinkerson 1 Anderson, Jas. Webb Sur., 6 mi. NE Calvert, standing 1,516 ft.
Rusk County: R. S. Kirby 1 Richardson, 467 ft. from N and E lines Blk. 5, J. I. Sanches Sur., 9 mi. W Laneville, S.D. 400 ft.
Smith County: Sun Oil B-1 Sanders, 648 ft. from N and 1,000 ft. from W lines 81.53-ac. tract in Matthew Arnold Sur., 2 mi. SW Chapel Hill, drilling 7,676 ft.
Upshur County: George Sutton 1 Gorman, S. G. Clayton Sur., 1 mi. SW Big Sandy, S.D. 4,930 ft.
Werby & Tune 1 Newsome & Cundiff, 2,800 ft. from most southerly SE and 2,600 ft. from SW lines A. Butler Sur., 10-in. casing at 210 ft., drilling 2,000 ft.

East Texas Field

(1-hr. gages)

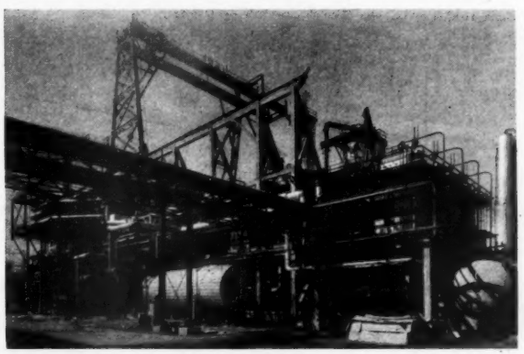
Longview, Gregg County: Magnolia 12 Goolsby, G. R. Rains Sur., 80 bbl., 3,540-56 ft.
Magnolia 20 Todd-Stinchcomb, Wm. Hart Sur., 90 bbl., 3,512-27 ft.
Selby Oil & Gas A-32 Snavely, W. Tyndale Sur., 60 bbl., 3,566-71 ft.
Stanolind 13 Rodden, W. Robinson Sur., dry at 3,596 ft.
Stanolind B-24 Stuckey-Thrasher, 32 bbl., 3,545-60 ft.
Kilgore, Gregg County: C. R. Starnes 33 Money, 20 bbl., pumping, 3,655-56 ft.
Wheelock & Collins 13 Clayton, L. B. Outlaw Sur., 33 bbl., 3,530-38 ft.
Shell Oil 3 Holt, D. Clark Sur., 6 bbl., swabbing, perf. casing 3,647-52 ft., 3,371-83 ft., P.B. from 3,720 ft.
Joiner, Rusk County: Fair Oil 4 Alford, T. J. Moore Sur., 18 bbl., 3,563-3,601 ft.
Sun Oil 15 Selman, 60 bbl., 3,650-80 ft.

Other Field Completions

Cayuga, Freestone County: Tide Water-Seaboard 4 Moody, E. G. Roctor Sur., dry at 4,036 ft.
Hawkins, Wood County: General American 1 Wood Co. fee, G. Brewer Sur., 108 bbl. in 6 hr., ¼-in. choke, top Woodbine 4,364 ft., T.D. 4,812 ft.
Humble 1 Robison, J. Pallock Sur., 97 bbl. in 6 hr., ¼-in. choke, top Woodbine 4,456 ft., oil sand 4,576 ft., T.D. 4,949 ft.
Humble 1 Smith, G. Brewer Sur., 96 bbl. in 6 hr., ¼-in. choke, top Woodbine 4,478 ft., T.D. 4,822 ft.
Humble B-1 Smith, G. Brewer Sur., 111 bbl. in 6 hr., ¼-in. choke, top Woodbine 4,457 ft., oil sand 4,532 ft., Georgetown lime 4,740 ft., T.D. 4,774 ft.

THE HOTTER THE LINES
The Greater The Need . . .

for . . . BADGER *Stainless Steel* EXPANSION JOINTS



These expansion joints, well-proved in service, function effectively at temperatures up to 900°F. That's pretty hot but these joints can do the job because they are of the proper stainless analysis and are carefully heat-treated throughout fabrication to prepare them for their exacting work.

And, of course, no packing or servicing is required throughout their long life.

As for insulation requirements, these joints are as compact as pipe fittings of comparable size. There's a saving here over bends.

That there are so many of these Badger Stainless Steel Expansion Joints in service already shows that they do fill a great need in refineries.

E. B. BADGER & SONS CO.

75 PITTS ST. BOSTON, MASS.

AGENTS IN PRINCIPAL CITIES

9-BEJ-4

Sand Hills and Extension Are Linked by Ellenburger Well

By D. H. STORMONT

MIDLAND, Tex., Sept. 8.—Last March the Gulf Oil Corp. completed 17 Waddell in the southern part of Crane County. The wildcat test was 5 miles directly south of the Sand Hill Ordovician area of southern Crane County and 7 miles directly north of the Abell pool of northern Pecos County. At the time of its completion it aroused a great deal of interest because it showed for the first time a definite indication of the trend of the deep Ordovician, Lower Paleozoic, production.

This week a link test between the Sand Hills Ordovician area and the 17 Waddell extension area is promising to define more clearly the structural trend of the region. The test is the Gulf 1-B Tubb, Section 28, Block B-27, P.S.L. Survey, over 1 mile north of 17 Waddell. The top of the Ellenburger lime was logged at 5,604 ft., 23 ft. low to 17 Waddell, which topped the lime several hundred feet high, structurally, at 5,584 ft., but 65 ft. higher than Gulf 1-A Tubb, 1¼ miles north, which opened deep pay for the field.

Operator tested 1-B Tubb at 5,592-5,660 ft., total depth, and in 5 minutes tested 3,690,000 cu. ft. of gas daily. First fluid appeared in 9 minutes and at the end of 20 minutes the flow was estimated at 8 bbl. of pipe-line oil per hour. At the end of the week operator ran a second drill-stem test and noted an increase in oil flow with decrease in gas volume. This test, run from 5,640 to 5,660 ft., showed an estimated flow of 25 bbl. per hour. Operator is preparing to set 5½-in. casing at 5,640 ft.

A large daily potential is expected for 1-B Tubb when it is completed. Very few wells in this area show more than a rise of fluid when tested through drill stem.

SUMMARY OF COMPLETIONS

Southern West Texas

	No.	Bbl.	Footage
Oil: Foster	4	2,382	17,048
McElroy	2	1,324	6,283
O'Brien	2	565	5,551
Sharon	3	356	7,457
Waddell	2	1,696	8,878
Other fields	7	4,632	20,161
Wildcats	1	1,434	4,809
Dry: Wildcats	3		5,792
Total	24		75,979

Northern West Texas

	No.	Bbl.	Footage
Oil: Dockery-Robbins	2	426	3,577
Seminole	3	2,167	15,965
Slaughter	10	9,650	50,074
Wasson	6	3,965	30,847
Dry: Fields	1		790
Total	22		101,253

Southeast New Mexico

	No.	Bbl.	Footage
Oil wells	1	55	4,990
Gas wells	1	*3.0	965
Total	2		5,955

*Million cu. ft.

Todd Deep Field Outpost to Test Crinoidal Zone

The crinoidal section of the Strawn, lower Pennsylvanian, lime, which is the main producing formation in the Todd Deep field of north central Crocket County, is being tested at the Amerada Petroleum Corp. 1-B Todd, a ¾-mile outpost. The outpost last week was showing for the county's first Ellenburger, Lower Ordovician, producer but oil recovery from the Ellenburger lime declined, amounting to only 34 bbl. during the last 12-hour test, and operator killed the well. Preparations are now being made to gun-perforate the casing opposite the crinoidal section at 6,130 ft. Location is SW SW Section 26, Block WX, G.C.&S.F. Survey.

At the first of the week Amerada Petroleum Corp. announced the location of two offsets to the prospective producer. One of the offset tests will be ¼ mile west of 1-B Todd and will be Amerada 1-D Todd. The other test will be 1-E Todd, ¼ mile south of 1-D Todd and a diagonal southwest offset to the prospect. Both tests are planned to rush development of the Ellenburger lime pay in the pool.

Pecos County Wildcat Staked

A new Delaware sand wildcat test has been staked by Pure Oil Co. on a block of 16,000 acres in west central Pecos County. The new test, contracted to 6,000 ft., will be drilled as 1-A Frazier, SW SW Section 31, Block 49, Township 10, T.&P. Survey. Location is 1¾ miles north of the same firm's No. 1 Frazier, which was abandoned at 460 ft.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage).

Wildcats

Pecos County: Anderson-Prichard 1 Boren, 1,979 ft. from S and 660 ft. from E lines, Sec. 4, L. Merchant Sur., elev. 2,469 ft., 1,434 bbl., ¾-in. choke, flowing natural, top Ellenburger 4,490 ft., pay 4,660-4,791 ft., P.B. from 4,809 ft.

Cremin & Boren 1 Bowen, 2,310 ft. from NW and 1,650 ft. from NE lines Sec. 60, Blk. 10, H.&G.N. Sur., elev. 2,477 ft., dry at 1,947 ft.

Terrell County: Texas Consolidated Oil 1 Holmes, NE NE Sec. 14, Blk. 2-A, G.H.&S.A. Sur., elev. 2,275 ft., dry at 2,015 ft.

L. M. Thomasson 3 Bates-Graham, 660 ft. from N and 2,490 ft. from W lines Sec. 30, Blk. 1, I.&G.N. Sur., elev. 2,084 ft., dry at 1,830 ft.

Fields

Foster, Ector County: Sinclair Prairie 7 Gist, elev. 2,965 ft., 511 bbl., 5,000 gal. acid, 410-qt. shot, 4,170-4,280 ft., P.B. from 4,324 ft.

Sinclair Prairie 3 Palmer, elev. 2,965 ft., 529 bbl., 5,000 gal. acid, 4,162-4,234 ft.

Sinclair Prairie 5 Palmer, elev. 2,966 ft., 715 bbl., 390-qt. shot 4,140-4,240 ft.

Sinclair Prairie 6 Palmer, elev. 2,964 ft., 627 bbl., 390-qt. shot, 4,150-4,250 ft.

Goldsmith, Ector County: Gulf 368 Goldsmith, elev. 3,206 ft., 1,149 bbl., 4,000 gal. acid, 4,202-69 ft.

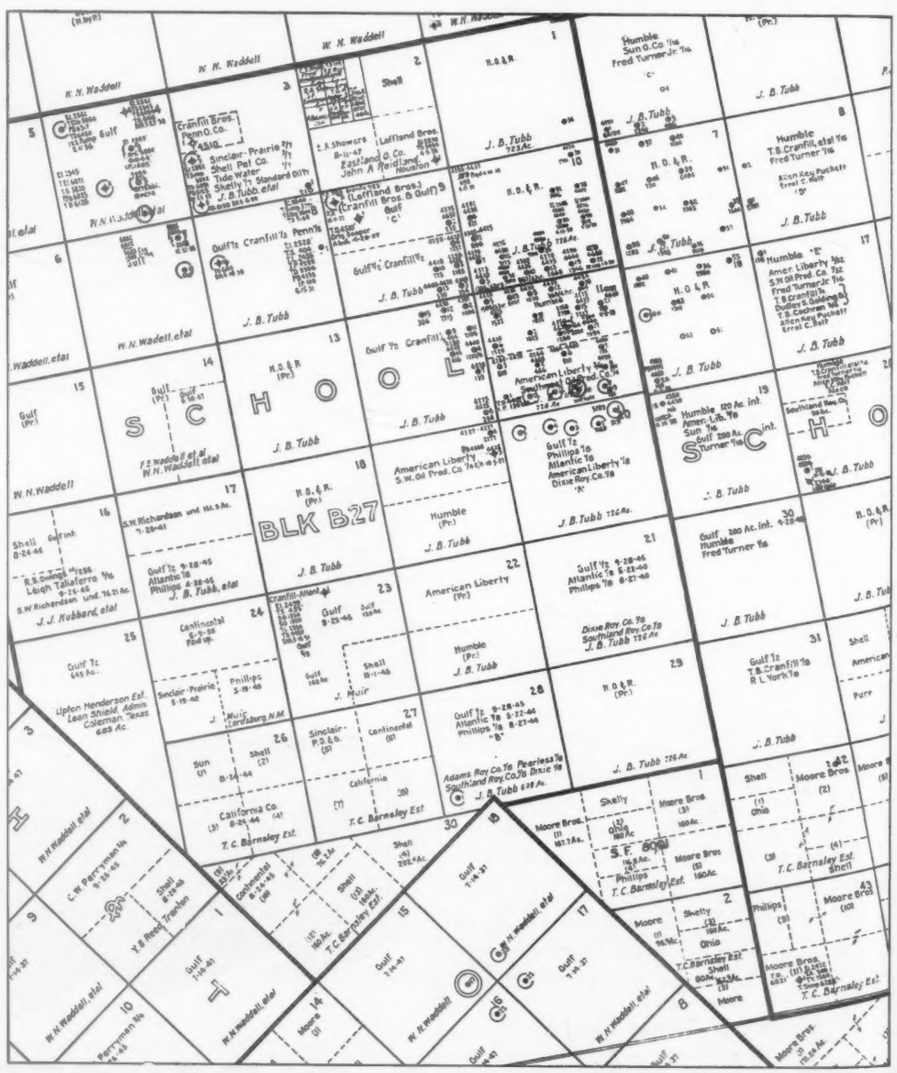
Halley, Winkler County: Skelly Oil 42 Halley, elev. 2,777 ft., 1,213 bbl., ¾-in. choke, 270-qt. shot 2,755-2,900 ft.

Johnson, Ector County: M. J. Delaney 4-A Johnson, elev. 3,012 ft., 1,234 bbl., 220-qt. shot, 4,050-4,140 ft.

McElroy, Upton County: Gulf 55 McElroy, elev. 2,675 ft., 131 bbl. oil and 3 bbl. water, 425-qt. shot, 2,885-2,965 ft., P.B. from 3,200 ft.

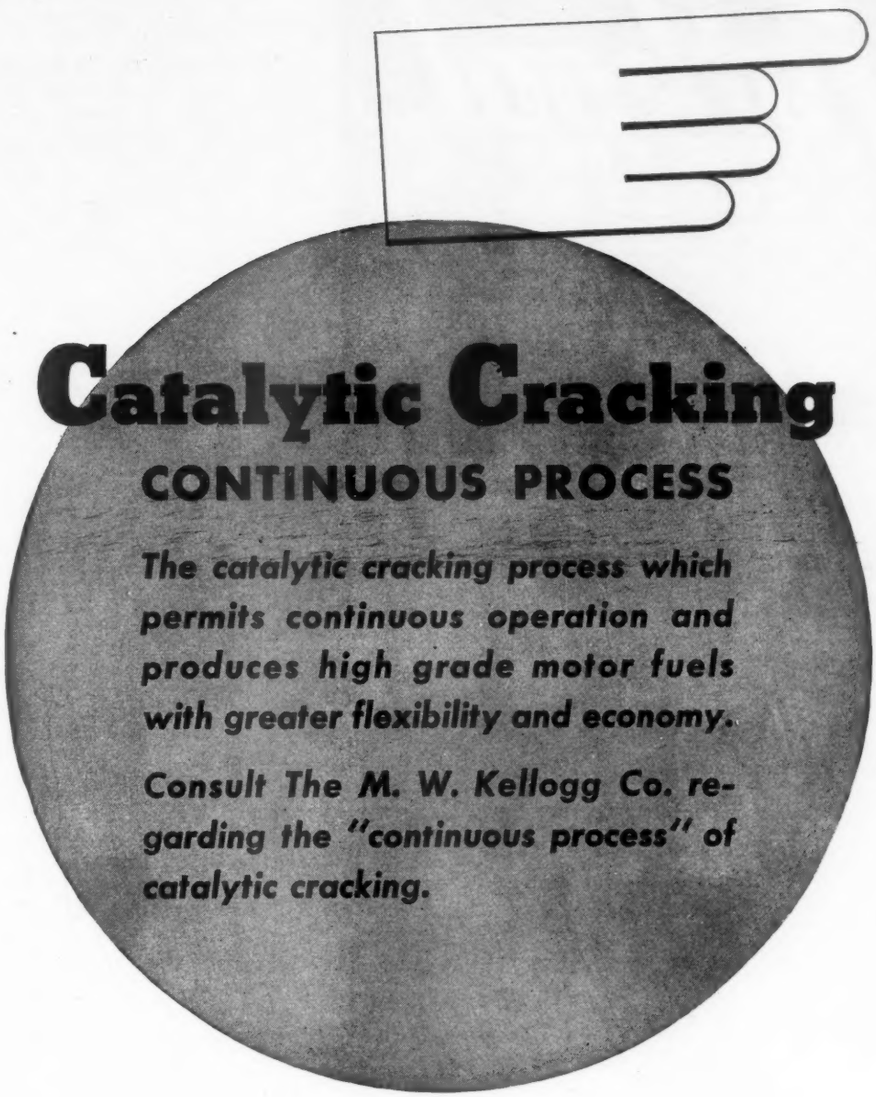
Gulf 252 McElroy, elev. 2,758 ft., 1,193 bbl., 875-qt. shot, 2,905-3,083 ft.

Noelke, Crockett County: M. & M. 1-F Noelke, elev.



Southwest Mapping Co., Fort Worth

Promising to define more clearly the trend of Lower Paleozoic production in southern Crane County is Gulf 1-B Tubb, which flowed 25 bbl. of pipe oil when tested through drill stem. No. 1-B Tubb is 1 mile north of Gulf 17 Waddell extension area and 1¼ miles south of Gulf 1-A Tubb, which opened deep production in the Sand Hills field



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The catalytic cracking process which permits continuous operation and produces high grade motor fuels with greater flexibility and economy.

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Made in 1½, 3, 5, and 10 gallon sizes.

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GOTT Water Cans are the practical way to keep drinking water cool for long periods, protected from impurities and always handy to the job. Snug fitting large removable top, strongly built to withstand rough usage. GOTT Water Coolers have extra large covers and a handy non-leaking push button faucet. Your Supply Store has them, get one today!

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WINFIELD, KANSAS

KEEP PURE DRINKING WATER ALWAYS HANDY

Designed to Insure Maximum Safety

One of the outstanding features of the McKissick Floor Block is its SAFETY. The guards are so constructed that they do not need to be detached for the purpose of threading the line. Minimum wear on line and sheave is assured due to the use of the Universal Adapter which allows plenty of side sway. A ball bearing swivel assembly permits the block to freely swivel under heaviest loads. Safety Floor Blocks are available in four sizes with single bearing, and two additional sizes with double bearings — sheave diameters from 12" to 24".

Safety Floor Block

Safety Tubing Block

Safety is also a feature of McKissick Tubing Blocks. It is permanently guarded—shorter in length and is completely constructed of steel. The new latch type becket eliminates all possibility of elevator links or hooks becoming detached.

To thread this block it is only necessary to remove one bolt, which allows guard plate to swing. Elevator links or hook may be inserted without removing becket from block. These blocks are manufactured in an extremely wide range of sizes and with any number of sheaves desired. Furnished with high load roller bearings or high speed bronze bushings—also with regular latch type becket or universal ball bearing swivel becket.

See Composite Catalog — Page 1652 for complete description and prices

McKISSICK PRODUCTS CORP'N
EXPORT OFFICE — 149 BROADWAY, NEW YORK CITY
TULSA, OKLAHOMA

2,330 ft., 130 bbl. in 1 hr., top Soma sand 1,300 ft., pay 1,300-25 ft.

North Cowden, Ector County: Continental 9 T. P. Land Tr., elev. 3,057 ft., 216 bbl., ⅛-in. choke, 410-qt. shot, 4,035-4,160 ft.

Stanolind & Delaney 7-A Smith, old well drilled deeper, elev. 3,060 ft., old T.D. 4,415 ft., new T.D. 4,440 ft., 96 bbl. oil and 33 bbl. water, 190-qt. shot, 4,400-37 ft.

O'Brien, Ward County: Gulf 185 O'Brien, 356 bbl., 500-qt. shot, 2,650-2,755 ft., T.D. 2,778 ft.

O'Brien, Winkler County: Gulf 180 O'Brien, elev. 2,675 ft., 209 bbl., 500-qt. shot, 2,600-2,773 ft.

Pecos Valley, Pecos County: Unger 1 University-Shell, elev. 2,545 ft., 264 bbl., ½-in. choke, 1,428-72 ft.

Sharon, Scurry County: Pearson, Sibert & Ordovician Oil 2 Burney, elev. 2,252 ft., 131 bbl., 280-qt. shot, 2,230-2,494 ft.

D. & R. Oil 1 Burney, elev. 2,245 ft., 115 bbl., 738-qt. shot, 2,337-2,475 ft.

D. & R. Oil 1 Robinson-Dodson & Wetzel, elev. 2,240 ft., 110 bbl., 740-qt. shot, 2,305-2,470 ft., T.D. 2,488 ft.

Waddell, Crane County: Gulf 26 Waddell, elev. 2,657 ft., 1,374 bbl., 5,000 gal. acid, 4,596-4,393 ft.

Humble 28 Tubb, elev. 2,608 ft., 322 bbl., ½-in. choke, 9,000 gal. acid, 4,280-4,485 ft.

White & Baker, Pecos County: Shasta Oil 1-A White & Baker, elev, 2,827 ft., 26 bbl. oil and 40 bbl. water, 100-qt. shot, 1,880-95 ft.

SOUTHERN WEST TEXAS ACTIVE WILDCATS

Brewster County: Chester Dewey 1 Decie, 660 ft. from N and 1,980 ft. from S lines Sec. 45, Block 4, G.C. &S.F. Sur., 3,000-ft. test, cementing crevice at 185 ft., S.D.

Fred Turner Jr., 1 Turney, 330 ft. from N and 660 ft. from W lines Sec. 39, Blk. A-2, G.H.&H. Sur., 3,000-ft. test, drilling 600 ft.

Crane County: Gulf Oil 1-B Tubb, 660 ft. from W and S lines, Sec. 28, Blk. B-27, P.S.L. Sur., top Ellenburger 5,604 ft., flowed 25 bbl. oil on 30-minute drill-stem test.

Crockett County: R. H. Henderson 1 Couch, 467 ft. from N and 2,173 ft. from E lines Sec. 37, Blk. GG, H.E.&W.T. Sur., show oil 2,166-83 ft., setting 5½-in. casing at 2,157 ft.

Amerada 1-C Todd, 660 ft. from W and S lines Sec. 15, Blk. 10, G.C.&S.F. Sur., drilling 6,011 ft.

Wilshire 1 Carter, 445 ft. from W and 1,267 ft. from S lines E 50 acres of SW 100 acres, Sec. 27, Blk. GG, fishing tools 450 ft., first report.

Culberson County: John Wolfe 1 Wilson Briggs, 2,316 ft. from N and 1,500 ft. from E lines Sec. 1, Blk. 112, W. N. Olden Sur., Delaware sand test, spud and S.D.

Pecos County: J. D. Lancaster 1-32 University, 2,310 ft. from S and 330 ft. from E lines Sec. 26, Blk. 16, University Lands Sur., drilling 450 ft.

Gulf 1 Millar, Sec. 29, Blk. 11, H.&G.N. Sur., prep. to abandon at 4,538 ft. in granite.

A. Hargrove 1 Univ.-Continental, NE cor. Sec. 4, Blk. 7, University Sur., P.B. to 1,500 ft., T.D. 1,746 ft., S.D.

Reagan County: Amerada 1-RA University, 1,980 ft. from N and 600 ft. from E lines Sec. 3, Blk. 48, University Sur., P.B. to 9,080 ft., flowing 306 bbl. in 15 hr.

Amerada 1-RB University, 660 ft. from N and W lines of NE¼ Sec. 8, Blk. 48, University Sur., cellar and pits, first report.

Amerada 1-RC University, 660 ft. from S and E lines of NE¼ Sec. 4, Blk. 48, University Sur., 2,700-ft. test, rigging up rotary.

Upton County: Plymouth Oil 1 Alford, C Sec. 50, Blk. 12, P.B. Scott Sur., drilling 8,272 ft.

Ward County: J. E. Fitzpatrick 1 T. B. Pruitt, SW SW Sec. 23, Blk. 1, W.&N.W. Sur., still fishing, T.D. 1,510 ft.

Shell Oil 1 Sealy-Smith, 2,310 ft. from S and 330 ft. from E lines, Sec. 38, Blk. A, G.M.M.B.&A. Sur., Ordovician test, drilled to 3,662 ft.

Winkler County: Magnolia 20 States-Walton, NW cor. Sec. 4, Blk. 3-B P.S.L. Sur., setting 7-in. casing at 8,341 ft., T.D.

Sam Weiner 2 Halley, NW NE Sec. 7, Blk. 11-B. P.S.L. Sur., T.D. 3,023 ft., prepare to complete as gas well.

Wildcatting on Increase In Northern Sector

Wildcatting activity in the northern-basin region has suddenly taken a turn for the better. During this week four new tests were announced and an old test has been given a new contract. In northwestern Dawson County, Ray Albaugh has staked location for 1 J. J. Handley, SE SW Section 36, Block M, E.L. Survey. The wildcat will be drilled to 5,250 ft. unless commercial production is encountered at a shallower depth.

The Clear Fork lime, producing formation at the Lubbock County wildcat discovery, will be tested in Dawson County. The Stanolind Oil & Gas Co. 2 Scanlan, Section 87, Block M, E.L. Survey, which has been drilled to 5,000 ft. and has failed to find production from the regular Permian horizon of the Cedar Lake area, will be drilled to 7,000 ft.

In the extreme northern part of the northern-basin area, the old Krupp-Flaherty 1 Kleen, Swisher County wildcat, abandoned 2 years ago at 1,824 ft., has been taken over by Fred Devore and J. B. Slade, both of Amarillo. The test is located in the center of the SW Section 120, Block M-10, B.S.&F. Survey. Contract has been let for a 5,300-ft. test.

George Callahan and C. L. Wagner are spudding a 3,200-ft. wildcat test at 1 E. M. Wahlenmaier ranch in Crosby County. The wildcat is 15 miles north of the nearest production in the Justiceburg area of Garza County. Location is in the northeast corner of Section

(Continued on Page 87)

TEXAS GULF COAST

Montgomery County Wilcox Well Shows Distillate

By NEIL WILLIAMS

HOUSTON, Tex., Sept. 8.—Interest along the Texas Gulf Coast district was centered on the Wilcox trend which is witnessing its most active period since the discovery of the Eola field in 1939. Main attraction was held by Montgomery County, where one wildcat located in the Magnolia area was showing promise of production while two others had reached critical stages. In addition a new location was announced for the county while material was being moved in for another Wilcox test in Tyler County.

The prospective pool opener is Glenn McCarthy 1 Sayle, about 1 mile southwest of the Magnolia townsite in the John Scott Survey. Shaly sand with an oil odor was cored at 8,450-58 ft., and a 15-minute drill-stem test at 8,448-74 ft. tested 450 lb. working pressure, and 450 ft. of distillate-cut mud was recovered. Two feet of sand with a slight gas odor was recovered at 8,538-48 ft., and 5 ft. of hard sand with an oil odor and cut was recovered from 8,450-58 ft. The well is coring ahead in gray sand below 8,558 ft. While the top of the Wilcox was not available, the showing is believed to have been logged near the top of the section indicating the presence of structure which lends encouragement of finding additional showings in the lower part of the section. Contract depth of the well is reported to be 9,500 ft., but it is very likely that it will be drilled much deeper if no additional showings are logged. This area has been rated as a first-class prospect for a number of years, having been worked extensively with geophysical instruments, and leasing and royalty buying has been active for several months. The well is located on a farmed-out lease and is being supported by major companies.

● SUMMARY OF COMPLETIONS ●

	No.	Bbl.	Footage
Oil wells: Fields	17	2,653	105,477
Gas wells: Fields	2	.....	10,095
Dry holes: Fields	1	.....	4,192
Wildcats	2	.....	12,028
Total	22	.....	131,792

In the northeastern part of the county, just east of the town of Willis in the J. M. de la Garza Survey, Continental 1 Foster estate is coring in shale below 9,934 ft. The top of the Wilcox has not been reported. To the southeast in the Fostoria area, Atlantic 1 Foster Lumber Co. is coring in shale below 9,557 ft. On the southwest side of the Lake Creek field, Superior 3 McWhorter is drilling ahead in shale below 11,063 ft. after 7-in. casing was cemented at 11,012 ft. This well is reported to have logged the regular field pay and the company intends to drill the well through the Wilcox section, the base of which is expected to be found below 12,000 ft.

The new locations are Hill & Hill 1 Crawford, located in the Willis area in the J. Lindley Survey. During the Conroe play this area received considerable attention and development has been encouraged by showings of gas at shallow depths. However, no Wilcox test has ever been drilled. To the east in Tyler County, Stanolind Oil & Gas Co. has derrick up for 1 J. F. Parker in the George G. Collins Survey in the southeast part of the county, just southwest of the Joe's Lake field.

Shows Found in Walker County Wilcox Test

Updip from the deep Wilcox play, Cox & Ferrell 1 Foster, a wildcat located south of Huntsville in the H. Applewhite Survey, Walker County, continues to attract attention as side-wall cores recovered sand with a slight oil and gas odor. Total depth of the well is 6,723 ft., and casing is expected to be cemented on bottom, preparatory to testing the interval from 5,975-6,668 ft., in which nine side-wall cores carried slight showings of oil and gas. Should the well be completed for a producer, it would open the first production for the county and lend encouragement for further development along this particular sector of the trend which has been more or less passed up by early theories that production along the upper part of the trend was limited to an updip depth of 6,000 ft. However, since the successful development in Central Louisiana, this area is receiving considerable attention and it is expected to be the scene of much wildcatting in the future. A new location reported for the area the past week is Oswego Oil Co. 1 W. A. Bonney in the Timonthy Jones Survey, a projected Wilcox test.

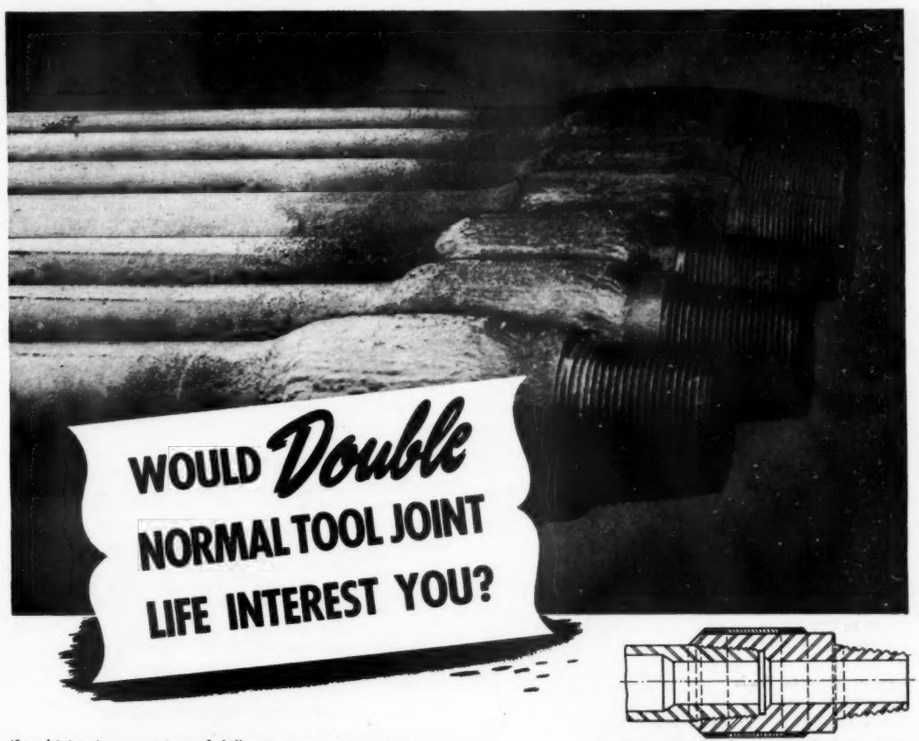
Segno Lower Wilcox Test Shows Water

On the south side of the Segno field, Polk County, Gulf 48 Wing flowed salt water when tested through perforated casing at 11,270-90 ft., the company had killed the well and was preparing to test in a higher sand. This is the first attempt to open production from the lower Wilcox in this field. Main production is from the Cockfield and upper Wilcox.

Deep Flank Well at Hull Completed

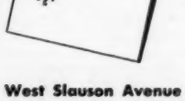
Houston Oil Co. 1 Heimple, previously reported as

(Continued on Page 90)



If tool joints in your strings of drill pipe are wearing away rapidly under today's punishing service requirements, then investigate the Stoody method of hard-facing those joints for *longer* wearing life . . . lower drilling and maintenance costs! Tool joint engineers are reporting up to *double* normal life from tool joints hard-faced with Stoody Alloys. Electric Tube Borium and Coated Stoody Self-Hardening are the metals used. They're applied either directly to the tool joint surface, or to a recess machined into the tool joint, as desired. Whatever the method used, these Stoody Alloys are not only reducing tool joint wear under the toughest conditions, but they're also maintaining over-all joint strength and correct elevator contour *longer—two mighty important features!*

So if tool joint wear is a problem with you, write for the special Stoody Engineering Bulletin just issued which tells about the Stoody methods of hard-facing tool joints . . . recommends methods and procedures to meet any operator's requirements. It's yours for the asking!



Integral Tool Joints built up with Stoody High Carbon and hard-faced with Coated Stoody Self-Hardening. Illustrated above is method of application. After joints have been preheated to approximately 300° F., the metal is applied directly to the surface for a depth of about 3/16". Coated Stoody Self-Hardening is applied near the ends of the collar, Stoody High Carbon in the center. This method is used successfully throughout Mid-Continent fields.

These worn double-pin tool joints have been rebuilt and hard-faced with Coated Stoody Self-Hardening and Stoody High Carbon. The deposit may be as thick as ⅛" to ¼", depending upon extent of wear. This application is not only excellent for *reclaiming* old joints, but also enables them to outwear new ones.

This schematic drawing at right shows method of rebuilding and hard-facing worn double-pin tool joints. Joints are preheated to approximately 300° F. before starting to weld. Success with this method has been outstanding in Mid-Continent territory.

STOODY COMPANY • 1134 West Slauson Avenue • Whittier, California

STOODY COMPANY *Hard Facing Alloys*

ILLINOIS FIELD REPORT

McClosky Producer Near Benton Makes Good Flow

By STAFF CORRESPONDENT

MATTOON, Ill., Sept. 8.—After showing a decline during the previous week, Illinois operations started on the upward trend again last week as operators began 105 new ventures, shoving the state's total operations up to 522. Jefferson, Wayne and White counties had 67 of the new tests and the other 38 were scattered in several other areas.

New McClosky Pool Opened Near Benton

A prolific new McClosky pool has been opened 2 miles north of the Benton where Mohawk Drilling 1 Stewart, NE NE NE 11-6s-2e, flowed and swabbed 30 bbl. of oil an hour through tubing after acidizing McClosky pay at 2,789-94 ft. At present operators are pulling tubing to swab the well through casing in hopes of making it flow.

The new discovery is the first show of production in the McClosky. The nearby Benton field was discovered only after the initial test had plugged back from a dry McClosky to tap a good reservoir in the Tar Springs sand.

Clinton County Set For Drilling Boom

Clinton County, among the first counties to profit from Illinois' resurrected development, was again anticipating a drilling boom as the Texas Co. began completion of 1 Price Gray, a deep wildcat 4½ miles northeast of Carlyle in 35-3n-2w. No. 1 Gray is bottomed at 2,684 ft. in the Devonian lime. A preliminary test of the formation indicated it would produce commercially. In addition to the Devonian saturation the well also found pay in Benoist sand at 1,200-25 ft.

Two 500-gal. storage tanks and a flow line have been constructed and the company is preparing to perforate casing opposite the Devonian. If the well is successfully completed in the deeper of the two saturated horizons, it will be the first Devonian producer in Illinois in an area where there is no shallow production.

Fayette Wildcat Finds Show in Benoist

A wildcat test 6 miles south of the St. James field of Fayette County has been added to the potential pool opener list after encountering about 6½ ft. of saturation in the Benoist at 1,880-86½ ft. The test, Luttrell et al 1 Ford, NE NE NW 31-5n-3e, was ordered shut down when geologists failed to agree upon the well's potential commercial possibilities. However, operators decided to test the show. According to reliable reports the core recovered was "tight" and it was also reported that an electric log of the test looked none too favorable.

Interest in the Louden pool Devonian drilling campaign has again been directed to a south outpost test of the Magnolia Co. on the T. C. Clow lease in N½ 5-7n-3e. The Devonian test on the Clow lease is approximately 1 mile northeast of the Devonian dry hole of Jarvis Brothers on their Yakey lease and about 1½ miles north of a Devonian dry hole drilled recently by the Union Petroleum Products Co. on the Morrison lease in 8-7n-3e.

Wayne County Chalks Up Another New Pool

Another new field was opened in Wayne County last week with the completion of New Penn Development 2 Harvey Wagner, 30-2s-9e. No. 2 Wagner produced 150 bbl. of oil from Rosiclare saturation following a heavy acid treatment.

Also highlighting the week's news in Wayne County was the near completion of a mile north extension of the booming Johnsonville pool, Pioneer Drilling 1 Williamson, S½ SW NE 22-1n-6e, which flowed 265 bbl. of oil in 1½ hours from McClosky pay at 3,162-87 ft.

The Johnsonville pool which still has no production from any formation but the McClosky had 14 new producers, including 3 extension tests, with a potential daily initial production of 34,450 bbl. All wells in the field are now pinched down to small production, although most of them are capable of producing several thousand barrels daily, and several of them have indicated that they could make almost unheard of production from the McClosky.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Barden	3	1,867	9,602
Johnsonville	3	4,343	9,583
Louden	3	110	4,742
Mount Carmel	5	337	8,453
North New Harmony	6	749	17,107
Roland	8	2,078	20,222
South Woodlawn	10	5,157	19,747
West Liberty	2	807	5,684
Other pools	29	3,913	70,291
Wildcats	1	1,032	3,110
Dry holes: Fields*	15	.....	34,169
Wildcats	6	.....	9,554
Total	91	.....	212,264
Recompletions	63	4,018	.....

*Centralia 1, Albion 1, Louden 2, Benton 1, Dahlgren 2, West Liberty 1, Dupo 1, Allendale 1, South Clay City 1, East Calvin 1, Rising Sun 1, Roland 1.

Recompletions Reach Peak In Illinois Fields

Recompletions, which have played a major role in Illinois activity during the year, reached a new peak last week with a total of 63 reported. Of these only two were dry and the others had a total initial production of 4,018 bbl. daily. The majority of these were in the Salem pool of Marion County and were recompleted in either the Chester sands or the Devonian lime. The new Harmony field of White County also had a large number of recompletions while the remainder were scattered throughout the basin area.

WILDCAT COMPLETIONS

Bond County: A. Housemann 1-A E. Derr, SW NW NE 19-6n-2w, dry at 1,207 ft.

Gallatin County: C. S. Wilson 1 Rodgers, NW NE NW 16-8s-8e, dry at 505 ft.

Hamilton County: Cameron Bros. 1 Lockwood, NE NE NW 23-6s-2e, flowed 1,032 bbl. in 22 hr., 40-qt. shot 3,091-3,110 ft., Aux Vases 3,082-3,117 ft., T.D. 3,110 ft. *Extends Barden pool ½ mile south.*

Jackson County: Barton & Shipman 1 P. Maharry, NE NE SE 20-9s-3w, dry at 1,850 ft., Glen Dean 775 ft., Benoist 1,189 ft., St. Louis 1,532 ft.

Johnson County: J. Monroe 1 Frank Casey, W½ NW NE 24-11s-3e, location abandoned.

Lawrence County: Midwest Dev. 1 Millins, NW NW SE 15-2n-12w, dry at 2,175 ft., Bridgeport 1,112 ft., Glen Dean 1,559 ft., Goiconda 1,654 ft., Cypress 1,715 ft., St. Louis 2,128 ft.

Macoupin County: Dortomedge Oil 1 Hunsinger, SW NW NE 25-7n-7w, dry at 650 ft.

White County: Arrow Drlg. 1 Auld, SE SW SE 35-6s-8e, dry at 3,167 ft., Menard 2,174 ft., Waltersburg 2,258 ft., Vienna 2,308 ft., Tar Springs 2,344 ft., Glen Dean 2,462 ft., Goiconda 2,564 ft., Barlow 2,673 ft., Cypress 2,707 ft., Benoist 2,807 ft., Ste. Genevieve 2,997 ft., McClosky 3,014 ft.

FIELD COMPLETIONS

Clay County

Clay City: Pure 1-B Evans, W½ NW SE 15-2n-8e pumped 113 bbl. oil and 185 bbl. water, 5,000 gal. acid, McClosky 3,049-51 ft., 3,058-60 ft., T.D. 3,080 ft.

Sailor Springs: National Refining 2 Eastin, NE SE NW 26-4n-7e, pumped 20 bbl., 15-qt. shot 2,326-32 ft., Tar Springs 2,327 ft., T.D. 2,334 ft.

Clinton County

Bartelso: Newton & Ward 3 Trame, NW NE NW 8-1n-3w, pumped 18 bbl., 5-qt. shot 999-1,004 ft., Cypress 998 ft., T.D. 1,005 ft.

Centralia: Gearson 1 Kraft, E½ NE NE 11-1n-1w, pumped 80 bbl. oil and 20 bbl. water, perf. 2,908-20 ft., 1,000 gal. acid, T.D. 2,932 ft.

Gearson 2 Kraft, NE NE SE 11-1n-1w, dry at 1,395 ft., Benoist 1,385-95 ft.

Edwards County

Albion: Superior 3 Fewkes, S½ SW SW SE 7-2s-11e, dry at 3,149 ft., Menard 2,275 ft., Glen Dean 2,492 ft., Barlow 2,722 ft., Fredonia 3,048 ft., McClosky 3,138 ft.

Effingham County

Louden: Carter 1 Workman, NW SW NW 7-8n-4e, dry, Cypress 1,511 ft., T.D. 1,552 ft.

Fayette County

Louden: Carter 8 Finch, SE NW SE 4-7n-3e, pumped 10 bbl., 6 per cent water, 20-qt. shot 1,524-30 ft., 20-qt. shot 1,530-38 ft., T.D. 1,538 ft.

Carter 1 J. Crum, SW NW SE 16-7n-3e, pumped 85 bbl., 20-qt. shot 1,566-72 ft., Cypress 1,524 ft., T.D. 1,572 ft.

Carter 2 A. M. Wood, NW NE NE 13-8n-3e, dry at 1,639 ft., Glen Dean 1,358 ft., Cypress 1,487 ft.

Carter 9 A. W. St. Pierre, SE NE SW 36-9n-3e, pumped 15 bbl., 20-qt. shot 1,564-72 ft., Cypress 1,564 ft., T.D. 1,632 ft.

Franklin County

Benton: Broaddus 1 McLaughlin, NE NE NE 23-6s-2e, dry at 2,150 ft., Menard 1,994 ft.

Adkins 4 Orient M, SW NW NW 31-6s-3e, pumped 38 bbl., 10-qt. shot 2,126-31 ft., Tar Springs sand 2,119 ft., T.D. 2,135 ft.

Nation 2 Kelly, NW SW NE 23-6s-2e, location abandoned.

Gallatin County

Inman: Buell-Herndon 3-A Egyptian T. & T., NW SW SW 15-8s-10e, pumped 73 bbl. from Cypress sand, 40-qt. shot 2,083-97 ft. in Tar Springs sand, Cypress sand 2,396 ft., T.D. 2,417 ft.

Sinclair 3 Leach, SE NW NE 16-8s-10e, pumped 81 bbl., 3,000 gal. acid, McClosky 2,804-20 ft., T.D. 2,873 ft.

Hamilton County

Barden: Kingwood 2 Johnson, NW SE NE 14-6s-5e, flowed 787 ft., 40-qt. shot 3,166-94 ft., Aux Vases 3,149-86 ft., T.D. 3,194 ft.

Texas 1 Lockwood, NW SW NW 13-6s-5e, flowed 424 bbl., 20-qt. shot 3,196-3,204 ft., Aux Vases 3,175 ft., saturation 3,186-93 ft., T.D. 3,208 ft.

Texas 1 M. Lockwood, SE NE NE 14-6s-5e, flowed 656 bbl., 40-qt. shot 3,180-3,200 ft., Aux Vases 3,168 ft., T.D. 3,200 ft.

Dale: Pure 6 E. Cuppy, SW NE NW 7-6s-7e, pumped 27 bbl., 210-qt. shot 2,972-85 ft., 160-qt. shot 2,966-2,992 ft., Aux Vases 2,954 ft., pay 2,960-66 ft., 2,976-88 ft., T.D. 3,012 ft., P.B. 2,985 ft.

Pure 13 E. Cuppy, SW SE SW 6-6s-7e, flowed 287 ft., 280-qt. shot 2,953-90 ft., Aux Vases 2,945 ft., T.D. 2,990 ft.

Dahlgren: B. Fields 1 Garrison, S½ NW NW 27-3s-5e, dry at 3,306 ft., Glen Dean 2,625 ft., Ste. Genevieve 3,186 ft., McClosky 3,195 ft.

Duncan 1 Hook, NE NE NW 34-3s-5e, pumped 150 bbl., 2,000 gal. acid, McClosky 3,290-97 ft., T.D. 3,306 ft.

Seaboard 1 Knapp, N½ SW SW 22-3s-5e, dry at 3,497 ft., Menard 2,423 ft., Vienna 2,548 ft., Tar Springs 2,587 ft., Glen Dean 2,682 ft., Goiconda 2,760 ft., Barlow 2,903 ft., Cypress sand 2,921 ft., Paint Creek 3,055 ft., Benoist 3,079 ft., Aux Vases 3,214 ft., Ste. Genevieve 3,235 ft., McClosky 3,334 ft., St. Louis 3,489 ft.

Hoodville: Texas 4 K. Edwards, SE SE NW 11-6s-6e, flowed 110 bbl., Aux Vases 3,046-50 ft., T.D. 3,068 ft., P.B. 3,065 ft.

Walpole: Texas 2 M. Bond, W½ W NE 34-6s-6e, location abandoned.

Jasper County

North Boos: J. C. Meyer 1 J. O. McClure, SE SW NE 17-6n-10e, location abandoned.

West Liberty: Pure 1-A F. Pryor, S½ NE SE 7-5n-10e, flowed 513 bbl., 5,000 gal. acid, McClosky 2,839-41 ft., T.D. 2,874 ft.

Pure 2 Cunningham, E½ NE NE 8-5n-10e, flowed 294 bbl., 5,000 gal. acid, McClosky 2,775-85 ft., T.D. 2,810 ft.

Pure 3-B Dickerson, W½ SW NW 20-5n-10e, dry at 3,840 ft., Glen Dean 2,268 ft., Ste. Genevieve 2,753 ft., McClosky 2,775 ft.

Jefferson County

South Woodlawn: Texas 1 Walker, NE NE NW 2-3s-1e, pumped 221 bbl., 20-qt. shot 1,952-60 ft., 10-qt. shot 1,953-60 ft., Benoist 1,945 ft., T.D. 1,960 ft.

Gulf 7 Eubanks, NW SW SW 35-2s-1e, pumped 145 bbl., 10-qt. shot 1,973-77 ft., Benoist 1,967 ft., T.D. 1,977 ft.

McBride 2 Eubanks, NW NW NE 2-3s-1e, pumped 600 bbl., 40-qt. shot 1,934-55 ft., 60-qt. shot 1,923-47 ft., Benoist 1,924 ft., T.D. 1,956 ft.

Ruwaldt 1 Winesburg, NW SW SE 35-2s-1e, pumped 680 bbl., 20-qt. shot 1,966-76 ft., Benoist 1,957 ft., T.D. 1,986 ft.

Potter 1 McMullen, SE NW SW 35-2s-1e, pumped 250 bbl., 30-qt. shot 1,965-75 ft., Benoist 1,959 ft., T.D. 1,975 ft.

Magnolia 2 Eubanks, SW SE SE 35-2s-1e, pumped 703 bbl., 80-qt. shot 1,955-87 ft., Benoist sand 1,944 ft., T.D. 1,990 ft.

McBride 1 Eubanks, NE NW NE 2-3s-1e, pumped 650 bbl., 40-qt. shot 1,943-67 ft., 60-qt. shot 1,930-64 ft., Benoist sand 1,932 ft., T.D. 1,970 ft.

Magnolia 1 Eubanks, NW SE SE 35-2s-1e, pumped 1,008 bbl., 60-qt. shot 1,953-78 ft., Benoist 1,936 ft., T.D. 1,978 ft.

Kingwood 6 Bank of Woodlawn, SE SE NW 35-2s-1e, pumped 340 bbl., 40-qt. shot 1,983-95 ft., Benoist 1,980 ft., T.D. 1,995 ft.

Bayer et al 3 Winesburg, SW SW SE 35-2s-1e, pumped 560 bbl., 30-qt. shot 1,945-60 ft., 5-qt. shot 1,950-55 ft., Benoist 1,929 ft., T.D. 1,960 ft., P.B. 1,955 ft.

Marion County

East Patoka: Shell 9-A Davidson, SW SE NE 34-4n-1e pumped 177 bbl. oil and 137 bbl. water, 5-qt. shot 1,476-81 ft., Benoist 1,466 ft., T.D. 1,481 ft.

St. Clair County

Dupo: Starr 7 Bruer, SW SW NE 28-1n-10w, pumped 20 bbl. oil and 20 bbl. water, 60-qt. shot 508-50 ft., T.D. 550 ft.

Tariton 7 Tariton, W½ SW SE SE 28-1n-10w, pumped 200 bbl. oil and 600 bbl. water, 80-qt. shot on bottom, Trenton 658 ft., T.D. 714 ft.

J. A. Roth 2-B Mense, SE SE NE 33-1n-10w, dry at 850 ft., Trenton 745 ft.

Loveredge 2 Gaskill, SE SW NW NW 34-1n-10w, pumped 100 bbl. oil and 250 bbl. water, 1,000 gal. acid, Trenton 654 ft., T.D. 718 ft.

(Continued on Page 89)

Pennsylvania Tests Make Slow Progress Toward Oriskany

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Sept. 8.—Activity continues at a high rate in the lower eastern fields with 26 completions reported during the week of which 4 were dry, 18 gas wells, and 4 oil producers. In Southwest Pennsylvania, several of the deep tests are nearing their horizons.

SOUTHWEST PENNSYLVANIA

In Armstrong County, T. W. Phillips Gas & Oil Co. et al topped the Tully lime at 5,416 ft. in the deep test on the W. T. Biedenbach farm on the Kellersburg anticline in West Franklin Township. This places that member at 4,246 ft. subsea. The Oriskany sand is expected within the next 500 ft.

On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. topped the Onondaga lime at 6,530 ft. in 5 Piedmont Coal Co. and is drilling at 6,535 ft. In No. 6, this company has reached 6,580 ft. and so far no Tully lime has been found. New Penn Development Co., William E. Snee et al are drilling 1 Kirby at 4,355 ft. and 1 Carothers at 5,237 ft.

On Laurel Ridge in Stewart Township, Fayette County, these operators are drilling the wildcat on the Gregg L. Neel farm at 8,464 ft., or 161 ft. below the top of the Oriskany sand. So far it has been void of any commercial showing. In Maryland, these operators are drilling the test on the Humberson farm on the Accident dome in Garrett County, at 6,344 ft. and making fair progress.

SUMMARY OF COMPLETIONS

Southwest Pennsylvania

	No.	Bbl.	Footage
Gas	9	*3.0	18,443
Dry	3	.....	8,931
Total	11	.....	27,374
Recompletions	1	*0.05	.....

West Virginia

	No.	Bbl.	Footage
Oil	4	23	6,374
Gas: Oriskany	5	*15.4	23,164
Other	5	*1.6	9,482
Dry	1	.....	640
Total	15	.....	39,660
Recompletions	2	†4	.....

*Million cu. ft. †Plus 0.1 million cu. ft. gas.

In Richhill Township, Greene County, the Natural Gas Co. of West Virginia has started drilling the Oriskany test on the Andrew Workman farm on the west flank of the Washington anticline.

Armstrong County

Bethel Township: Local Co. 1 Hannah Heilman, 284,000 cu. ft. gas, Fifth sand 2,057 ft., gas 2,058 ft., T.D. 2,058 ft.
Kiskiminitas Township: Duquesne 1 S. Trux, dry through Bradford sand.
Plum Creek Township: Peoples 1 M. T. Boyer, drilled deeper, 48,000 cu. ft. gas at 3,304 ft. in Bradford sand, T.D. 3,500 ft.

Clarion County

Clarion Township: J. Galbraith et al 2 W. S. M. Fleming, 200,000 cu. ft. gas, Hundred-foot 856 ft.
Red Bank Township: T. W. Phillips 1 J. C. Swarts, 70,000 cu. ft. gas, gas show at 1,025 ft. and 3,008 ft., through Bradford sand, T.D. 3,156 ft.

Fayette County

Menallen Township: George Bortz et al 1 fee, 65,000 cu. ft. gas, T.D. 1,978 ft.
Nicholson Township: Duquesne 1 Carl Kosack, dry, through Fifth sand, T.D. 2,703 ft.

Greene County

Richhill Township: Wasmuth & Callahan 1 Goodwin heirs, small gas well from Injun sand, T.D. 2,750 ft.

Washington County

South Franklin Township: Carnegie 1 Nelan heirs, dry, Fifth sand 2,898-2,927 ft., T.D. 3,028 ft.

Westmoreland County

Bell Township: Apollo Gas Co. 3 David C. Blair, 1,917,000 cu. ft. gas, Speechley sand, R.P. 720 lb., T.D. 2,818 ft.
Washington Township: Peoples 2 A. J. Iddings, 240,000 cu. ft. gas, Thirty-foot sand 1,554-1,625 ft., gas 1,618 ft., Third sand 1,682-1,704 ft., gas 1,687 ft., T.D. 1,722 ft.
Peoples Natural Gas Co. 1 John W. Ellwood, drilled deeper, 190,000 cu. ft. gas, Bradford sand 3,030-85 ft., gas 3,040-46 ft., 3,057-63 ft., T.D. 3,105 ft.

DRILLING

Armstrong County

Boggs Township: J. K. Sharp & Co. 3 James Sefton, 1,730 ft.
T. W. Phillips 1 J. Slagle, 1,840 ft.
Burrell Township: J. K. Sharp & Co. 1 Lottie Manners, 1,389 ft.
Kittanning Township: Pittsburgh Plate Glass Co. 2 Hardy Wright, 2,155 ft.
James Wright 1 Henry Wright, 1,410 ft.
Shaw & Townsend 1 Heygart, 454 ft.
Mahoning Township: Humphries, Stone & McCall 1 George Gould, 1,600 ft.
Manor Township: Local Co. 1 R. S. Iseman, 759 ft.
Apollo 1 J. M. Riggle, 1,195 ft.
Plum Creek Township: Apollo 1 Lewis Baker, 3,454 ft.
South Buffalo Township: Local Co. 1 J. R. Hill, location.
Wayne Township: Peoples 2 George Snyder, 3,000 ft.
R. C. Galbraith et al 1 A. Rupp, 720 ft.

Clarion County

Limestone Township: George Hall et al 1 M. M. Fairman, 2,300 ft.
Owens Illinois Glass Co. 1 C. W. McClure, 750 ft.
Owens Illinois Glass Co. 1 H. C. Moore, 1,375 ft.

Fayette County

Menallen Township: Greensboro 1 Jacob Harris, 1,785 ft.

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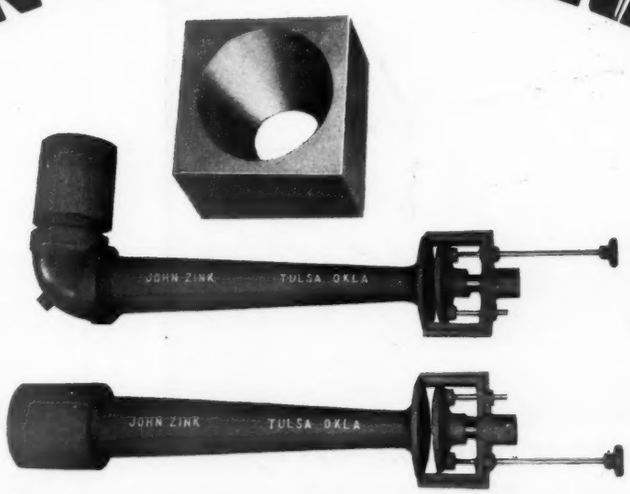

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Greensboro 1 Carl M. Biddle, 1,740 ft.
Nicholson Township: Lingle & Upperman 1 Shroyer Bros., 220 ft.
Wesley Moffitt et al 1 Republic Collieries Co., S.D. 650 ft.
Greensboro 1 Alfred Cincy, 1,060 ft.

Greene County

Gilmore Township: Manufacturers 1 J. P. Eakin, 1,450 ft.
Jackson Township: Manufacturers 2 Mary E. Smith, 855 ft.
Jefferson Township: Equitable Gas Co. 1 Charles T. Stillwell, 1,480 ft.
Monongahela Township: Donley & Lough 1 Mrs. Eli Boone, 1,300 ft.
Donley & Lough 1 Vance heirs, 1,250 ft.
Mayne et al 1 Isaac Wood, 400 ft.
Morris Township: Manufacturer 1 John B. Carter heirs, rigging up.
Carnegie 2 Baldwin, 2,284 ft.
Richhill Township: Manufacturers 1 Henry Dinsmore, 725 ft.
Wayne Township: Manufacturers 1 Walter Brewer, 1,760 ft.
Manufacturers L. & H. Co. 2 Halsie Tustin, 1,745 ft.
Manufacturers L. & H. Co. 3 Halsie Tustin, 1,045 ft.

Indiana County

Armstrong Township: Peoples 1 William D. Anderson, 1,791 ft.

Washington County

Donegal Township: Manufacturers R. M. DelaFrance, 2,200 ft.
Blaine Township: Washington Oil Co. 1 Luther McGill, 1,200 ft.
North Strabane Township: Peoples 1 Wallace Hamilton, 2,250 ft.

WEST VIRGINIA

Another fair well is being completed in the Ravenswood district Oriskany wildcatting in Jackson County. The Columbian Carbon Co. drilled the test on the Frances Kent farm to 4,959 ft. and there lost the bit. The Corniferous lime was topped at 4,829 ft.; Oriskany 4,925 ft., and the best volume was at 4,930 ft. with a gage of 5,738,000 cu. ft. of gas.

In Monongalia County, Hope Natural Gas Co. has resumed drilling the wildcat on the H. C. Greer et al lease in Morgan district and reached 6,895 ft. and are drilling a 6-in. pilot hole and reaming to 8-in. on account of gas-pocket blowouts.

In Lewis County, this company has reached bottom or 4,645 ft. in the rotary test on the Alfred Woofter farm in Freemans Creek district. This test had been hung up for several weeks with a fishing job for lost drill pipe and is now being cleaned out.

Boone County

Scott district: Owens, Libby-Owens 37 Cassingham Coal Land Co., 198,000 cu. ft. gas, Berea, T.D. 2,404 ft.
Sherman district: Pure 46 Lafollette, Robson & Prichard, 207,980 cu. ft. gas, Salt sand.

Calhoun County

Sherman district: Carol Poling 1 Coy Robinson, 15 bbl., Injun sand, T.D. 1,962 ft.
McCall Drilling Co. 3 Jacobs Realty Co., 5 bbl., Injun sand, T.D. 2,000 ft.

Clay County

Buffalo district: Pittsburgh & West Virginia 7816 Elk River Coal & Land Co., 425,000 cu. ft. gas, Injun sand, T.D. 2,180 ft.

Gilmer County

Center district: Hope 8543 Stump & Boggess, 552,000 cu. ft. gas, third Salt sand 1,313-79 ft., Maxton sand 1,459-1,535 ft., Big lime 1,605-18 ft., gas 1,520-26 ft., gas 1,614-18 ft., T.D. 1,620 ft.

Hancock County

Grant district: R. J. Braden Co. 28 Hewitt heirs, 2 bbl., Berea, T.D. 867 ft.

Marion County

Mannington district: Monroe & Laughlin 1 Roy Moffitt, drilled deeper, 4 bbl., Fourth sand, T.D. 3,134 ft.

Pleasants County

Union district: Don E. White et al 2 J. C. Dennis heirs, 1 bbl. and 125,000 cu. ft. gas, Injun sand, T.D. 1,665 ft.

Putnam County

Curry district: Wood Gas Co. 1 Samuel Wood, drilled deeper, 94,000 cu. ft. gas, started deepening 1,031 ft., Big lime 1,398-1,578 ft., Big Injun 1,602-42 ft., Berea 2,094-2,119 ft., gas in Berea.

Upshur County

Banks district: Central Oil & Gas Co. 2 fee, 225,000 cu. ft. gas, Big Injun 1,347-1,472 ft., gas 1,372-79 ft., T.D. 1,478 ft.

Wood County

Williams district: H. H. Uhl 9 Addie L. Reynolds, dry, Cow Run, T.D. 640 ft.

ORISKANY GAS FIELDS

Kanawha County

Poca district: Godfrey L. Cabot, Inc., 1 Emmet Bowen final gage after shot 2,439,000 cu. ft. gas, Corniferous lime 5,129 ft., Oriskany 5,238 ft., T.D. 5,320 ft.
Godfrey L. Cabot, Inc., 17 Putnam Co., 1,061,000 cu. ft. gas, Big lime, first gas 1,953-59 ft., second gas 1,987-90 ft., T.D. 2,025 ft.
Columbian Carbon Co. 1 E. L. Shafer, 7,794,000 cu. ft. gas before shot, Corniferous lime 5,089 ft., Oriskany 5,218 ft., R.P. 1,800 lb., T.D. 5,237 ft.

(Continued on Page 92)

Pawnee County's Second Pool Opens Important New Area

By ROBERT INGRAM

OUTSTANDING development in the Kansas district was the apparent opening of Pawnee County's second pool by a test in the northeastern part of the county. Max Cohen 1 English estate, SW SW NE 1-21-15w, topped the Arbuckle at 3,640 ft. and cemented pipe at 3,658 ft. After perforating from 3,642-46 ft., oil rose 1,300 ft. in the hole and the operators planned to acidize slightly to clear perforations and complete. The oil tests 42 gravity. A successful test would open up a new area at the intersection of the Pawnee, Barton, and Stafford County lines, about midway between the Pawnee Rock field and the Hiss-Gates-Fischer-Drach area of Barton and Stafford counties.

SUMMARY OF COMPLETIONS

Kansas

	No.	Bbl.	Footage
Oil: Bemis	2	6,000	6,758
Cunningham	1	392	3,480
Forrest Hill	2	188	6,620
Hall-Gurney	1	475	3,106
Kraft	2	3,060	6,702
Ray	2	857	7,177
Silica	2	3,048	6,606
Trapp	3	4,295	9,711
Zenith	4	1,713	15,193
Peace Creek	2	6,000	7,569
Others	23	9,411	73,869
Gas: McLouth	2	*15.1	2,964
Dry: McLouth	4	.....	6,604
Wildcats	5	.....	16,489
Total	57	.....	172,848

*Million cu. ft.

Testing Wildcat in Southern Pratt County

A rank wildcat test 5 miles southeast of Pratt City in Pratt County, north of the village of Sawyer, is causing much interest.

Skelly 1 T. W. Ganaway, E½ NE SE 30-28-12w, was running casing Thursday prior to testing oil showings logged earlier in the Lansing and Viola lime formations. Operators will run gun-perforator in cemented casing early in the week, it is reported.

The Ganaway was drilled to a total depth of 4,683 ft. in barren Arbuckle dolomite topped at 4,667 ft.

Formation markers logged include: Lansing 3,960 ft., Mississippi lime 4,302 ft., Viola lime 4,450 ft., Simpson 4,549 ft., and Arbuckle dolomite 4,667 ft.

Nearest development production lies in the Cairo oil and gas field productive from the Viola lime, situated 7 miles to the northeast.

Extensions Recorded

Extensions to three fields were recorded during the week when Bartlett & Crum 1 Moran, N½ NW NW 25-17-11w, ½ mile north of production in the Bloomer pool made 15 bbl. from the Arbuckle at 3,304 ft.; Central Petroleum 1-B Hilgenberg extended the new Forrest Hills pool 1 mile to the northwest and Wakefield and Darby 1 Dillner, E½ SE NW 35-13-15w, made 74 bbl. from the Arbuckle at 3,325 ft. This well is about midway between the abandoned Dillner pool and the Gorham field.

Activity at Rick Revived by Shallow Production

A prolific Lansing-Kansas City lime pool in southeastern Barton County is reviving the old Rick pool, which has produced from the Arbuckle dolomite from an average depth of 3,350 ft. The new production is found at an average depth of 3,100 ft., or 200 ft. shallower than the original deep-pay zone.

Since completion of the Lansing-Kansas City discovery well, Shell 1 Rader, NE NE NE 11-19-11w, a plug-back completion, two offsets have proven prolific. The diagonal northeast offset, Edouard Jonas and Sam A. Springer 1 Rick, SW SW SW 1-19-11w, was completed as a maximum well in the Lansing series after plugging back from productive Arbuckle dolomite.

The north offset to the Lansing discovery, Texas 1 Birzer, SE SE SE 2-19-11w, an old dry hole in the Arbuckle, plugged back to the Lansing series, made 17½ bbl. per hour, natural after perforations from 3,101 to 3,114 ft.; after acidization with 3,000 gal., 1 Birzer flowed 290 bbl. of oil in 3 hours with no water.

The Texas Co. had not announced any new locations Wednesday for the Birzer tract but will protect any new offset locations.

Meanwhile, Springer and Jonas were preparing to rework 2 Jonas, SE SW SW 1-19-11w, for a Lansing-Kansas City lime completion.

Shell Oil Co., Inc., has set surface casing at 354 ft. at 2 Rader, NE NE NE 11-19-11w, diagonal southwest offset to the Lansing pay discovery well.

At the east offset to the Lansing pay discovery, Cities Service was preparing to plug back to the Lansing series 1 Rader, NW NW NW 12-19-11w. It is an Arbuckle oil well originally completed from a total depth of 3,354 ft. in the Arbuckle dolomite.

There are five Arbuckle dolomite oil wells listed on the September proration schedule of the Kansas Corporation Commission for the Rick pool, with a combined potential of 444 bbl. for the deep pay. July pipe-line runs were 3,281 bbl. for the Arbuckle zone.

Dreiling Discovery Well Given Potential Test

Kansas' twenty-eighth new oil pool for 1941, the Dreiling pool of Ellis County, was reported Thursday by conservation officials. The pool was opened by Darby 1-A Dreiling, with a potential of 352 bbl. a day from Lansing-Kansas City lime at 3,380 ft. The well is in SE NW 28-13-17w, 2 miles southeast of the Sugar Loaf pool and 2 miles northwest of the North Toulon pool.

AVERAGE DAILY PRODUCTION

LEADING KANSAS FIELDS

	Sept. 6	Aug. 30
Augusta	1,300	1,200
Bemis-Shutts	10,750	11,800
Bloomer	4,000	7,800
Burnett	8,300	11,100
Burrton	7,600	7,950
Chase	3,950	6,050
Elbing	900	1,000
El Dorado-Towanda	7,250	7,250
Geneseo	3,150	6,600
Graber	2,650	3,050
Greenwood County	8,950	9,000
Hollow-Nikkel	1,300	1,300
Keesling-Midway	1,750	1,450
Lerado	1,050	650
Lorraine	1,100	1,250
Oxford	600	600
Rainbow Bend	900	900
Raymond	1,550	1,600
Ritz-Canton	3,650	3,600
Trapp	19,300	22,350
Balance Russell County	25,650	26,200
Sedgwick County	3,050	3,100
Silica	20,950	23,650
Voshell	1,650	1,850
Wellington	800	850
Wherry	3,350	2,350
Zenith	10,550	10,750
Others	73,400	79,050
Total Kansas	229,400	254,300

KANSAS COMPLETIONS

Wildcats

Butler County: Wilson Oil Co. 1 Collingsworth, W½ NW SE 12-25-3e, 20 bbl. after acid, Mississippi lime 2,658-78 ft.

Ellis County: Falcon-Seaboard 1 Walters, W½ NW NW 18-12-17w, ½ mi. east of Walter field, dry, conglomerate 3,668 ft., Arbuckle 3,723-35 ft.

Reno County: Hall-Jordan 1 Stucky, N½ NW SW 31-25-5w, dry in dolomite 4,019-43 ft.

Rice County: Continental 1 Johnson, SW NW NE 28-20-6w, ½ mi. SW of N. Welch, dry in chat 3,377-3,434 ft.

Rooks County: T. H. Allen 1 Mitchell, N½ NE SE 10-10-19w, 3 mi. N of Zurich, dry, Arbuckle 3,690-3,722 ft.

Sedgwick County: W. S. Fees 1 Bartholomew, NE SW 30-27-4w, 8½ mi. SW of Hilger, dry in Simpson 4,225-33 ft.

Fields

Bemis, Ellis County: Cities Service 5 Colahan C, SW SW NE 24-11-17w, potential 3,000 bbl., Arbuckle at 3,383 ft.

Cities Service 6 Colahan C, W½ SE SE 24-11-17w, potential 3,000 bbl., Arbuckle at 3,375 ft.

Bloomer: Barton County: Bartlett-Crum 1 Moran, N½ NW NW 25-17-11w, swabbed 15 bbl., Arbuckle at 3,304 ft.

Bowman, Rice County: Cities Service 1 Eatinger, S½ SE NW 21-19-10w, potential 773 bbl., Kansas City at 3,259 ft.

Bruce, Cowley County: Trees & Phillips 1 Bruce, NW NW NE 9-30-4e, 691 bbl., Arbuckle at 3,316 ft.

Burnett, Ellis County: Dickey 7 Carmichael C, E½ NE NW 17-11-17w, potential 3,000 bbl., Arbuckle 3,373 ft.

Chase, Rice County: Lauck-Moncrief 1 Murphy, N½ SE NW 23-19-9w, swabbed 45 bbl., Arbuckle at 3,223 ft.

Coralena, Russell County: Cities Service 4 Rogg-D, N½ NW NE 9-15-13w, potential 1,580 bbl., Kansas City at 3,061 ft.

Cunningham: Pratt County, Skelly 7 Krehbiel A, S½ N½ NE 25-27-11w, pumped 392 bbl., Kansas City at 3,480 ft.

Donovan, Russell County: Wolf Creek 1 Biehm, S½ NW SE 10-15-15w, pumped 451 bbl., Kansas City at 3,276 ft.

Drieling, Ellis County: Darby 1 Drieling A, SE NW 28-13-17w, pumped 352 bbl., Kansas City at 3,380 ft.

Forest Hill, Russell County: Central Petroleum 1 Hilgenberg, S½ SE NW 20-15-12w, pumped 120 bbl., Arbuckle at 3,298 ft.

Central Petroleum 1 Hilgenberg B, S½ SE NE 18-15-12w, pumped 68 bbl., Arbuckle at 3,322 ft.

Geneseo, Rice County: Continental 10 A. H. Meyer, SE NE SW 30-18-7w, pumped 130 bbl., Arbuckle 3,217 ft.

Gorham, Russell County: Wakefield & Derby 1 Dillner, E½ SE NE 35-13-15w, swabbed 74 bbl., Arbuckle at 3,325 ft.

Hall-Gurney, Russell County: Hartman & Blair 6 Boxberger, 26-14-14w, swabbed 475 bbl., Kansas City at 3,106 ft.

Keesling, Rice County: L. Mackail 1 Mitchell, E½ SW 4-19-9w, pumped 537 bbl., Arbuckle at 3,243 ft.

Kraft, Barton County: Stanolind 1 Radenberg, NE NE 8-17-12w, pumped 60 bbl., Arbuckle at 3,341 ft.

Cities Service 3 Hogan, W½ NE NW 11-17-11w, potential 3,000 bbl., Arbuckle at 3,361 ft.

Krier, Barton County: B.B.M. Oil Co., 4 Krier A, NE NE SE 30-16-11w, flowed 625 bbl., 7,000 gal. acid, Topeka at 2,900 ft.

Lanterman, Barton County: Texas 4 Henning, E½ NW NW 22-19-11w, pumped 21 bbl., Arbuckle at 3,362 ft.

Laton, Russell County: Krueger 2-D Tatkenhorst, E½ NE NE 15-9-16w, pumped 256 bbl., Kansas City at 3,298 ft.

Lost Springs, Marion County: Ring-Mac 8 Schick, NE NW NW 33-17-4e, pumped 668 bbl., chat at 2,419 ft.

Ring-Mack 7 Schick, NW NE NW 33-17-4e, 555 bbl., chat at 2,419 ft.

Macksville, Stafford County: Stanolind 2 Nagel, W½ NE SW 3-24-15w, flowed 95 bbl., Kansas City at 3,827 ft.

McLouth, Jefferson County: Magnolia 1 Myers, SE SW 32-9-20e, 7,600,000 cu. ft. gas, Bartlesville at 1,504-31 ft.

McLaughlin Sons 3 Bartlett, NW SW 33-9-20e, 7,500,000 cu. ft. gas, Bartlesville at 1,403-33 ft.

L. Fisk, Tr., 1 Woodhead estate, NE SW 6-10-20e, dry at 1,603 ft., Bartlesville 1,529 ft., slight show oil.

J. Sherrod 1 Moymer, NW SE 4-10-20, dry at 1,682 ft., Bartlesville 1,537 ft., Mississippi lime 1,582 ft.

J. Longwell 2 Bartlett, SW SE 33-9-20e, dry at 1,682 ft., Bartlesville 1,537 ft., Mississippi lime 1,582 ft.

McLouth, Leavenworth County: J. Longwell 1 Morre, NW NE 3-10-20e, dry at 1,637 ft., Bartlesville 1,430 ft., Mississippi lime 1,582 ft.

Pawnee Rock, Pawnee County: Hall-Jordan 3 Nellie Belt B, S½ NW NW 13-20-16w, flowed 231 bbl., Arbuckle at 3,828 ft.

Peace Creek, Reno County: Republic 1 Snowbarger, NE NE SW 21-23-10w, potential 3,000 bbl., Viola at 3,783 ft.

Simpson Oil Co. 2 Snowbarger, NW SE NE 21-23-10w, potential 3,000 bbl., Viola at 3,786 ft.

Raymond, Rice County: Herndon Drlg. Co. 2 Warner B, E½ SW NE 16-20-10w, pumped 49 bbl., Kansas City at 3,164 ft.

Ray, Phillips County: Cities Service 2 Nichol, NE NW SW 33-5-20w, pumped 362 bbl., Reagan at 3,582 ft.

Cities Service 2 Ray-B, NE SW NW 32-5-20w, pumped 495 bbl., Reagan at 3,585 ft.

Rick, Barton County: Texas 1 Birzar, 2-19-11w, 83 bbl., Kansas City at 3,225 ft., acidized.

Rickard, Rice County: Aylward Prod. Co. 1 Biehler, NE NE SE 21-18-9w, pumped 483 bbl., conglomerate at 3,253 ft.

Silica, Barton County: Stanolind 24 W. M. Fanning C, SE NE SW 10-20-11w, potential 3,000 bbl., Arbuckle at 3,288 ft.

Silica West, Barton County: C. E. Ash 1 Scheufler, E½ NW NW 18-20-11w, swabbed 48 bbl., Arbuckle at 3,318 ft.

Trapp, Barton County: Shell 11 Hoffman A, S½ S½ SW 7-16-13w, potential 2,700 bbl., Arbuckle at 3,356 ft.

Shell 3 G. Batt B, SE NE SE 2-16-14w, swabbed 15 bbl., Arbuckle at 3,294 ft.

Wenke, Rice County: Beardmore Drlg. Co., 4 Mantell, N½ SE NE 18-20-10w, swabbed 51 bbl., Arbuckle at 3,330 ft.

Westhusin, Rooks County: Co-op 1 McClay, E½ SW SW 12-9-17w, pumped 215 bbl., Kansas City at 3,250 ft.

Zenith, Stafford County: Stanolind 4 A. Fuller, W½ SE SW 11-24-11w, potential 300 bbl., Misener at 3,814 ft.

A. M. Landon 3 Maggie Volker, N½ SW SW 1-24-11w, potential 1,319 bbl., Viola at 3,736 ft.

Dasa Oil Co. 2 McComb, S½ NE NE 22-24-11w, flowed 17 bbl., Misener at 3,818 ft.

Gulf 1 M. Figger, E½ NE NE 9-24-11w, swabbed 77 bbl., Viola at 3,825 ft.

South Extension in Upper Hunton at Falls City

ST. JOSEPH, Mo., Sept. 7.—R. L. Campbell and associates had 1,800 ft. of oil in 5 Schock following

(Continued on Page 88)

MICHIGAN OPERATIONS

Reed City Expansion May Cause Drop in Allowables

By OTTO C. PRESSPRICH

SAGINAW, Mich., Sept. 8.—Although it has been agreed to maintain proration of production at 480 bbl. a day for the present in the Reed City oil field, the Michigan Conservation Department is keeping close tab on the rapidly expanding output and indicated last week end that allowable withdrawal will be reduced if there is danger of reaching a point of market waste. State officials have estimated 15,000 bbl. a day as the market for the area, a point which should be reached this week. Oil men, however, believed the state figure is low by half.

The Reed City field, most active since Buckeye in 1937 and Walker in 1939, reached a new high last week with completion of seven wells with total daily potential in excess of 40,000 bbl., bringing the field's total daily potential to an estimated 100,000 bbl. Proration meanwhile, restricts present output to around 13,000 bbl. Last week there were 28 completed wells in the field, 45 others drilling, locations staked for at least 20 others. Only two of the completed wells have failed to flow more than the 480-bbl. allowable.

Production from the seven wells completed last week ranged from 1,440 bbl. a day to 9,600. Except for Gulf 1 Campbell, which rated 3,360 bbl. after being acid treated and extended the field to the north, none of the new wells contributed much information as to probable limits of the state's most active area.

With production near the point where it taxes transportation facilities, Simrall Corp. rushed to completion its 35-mile, 6-in. pipe line from its pumping station at Temple. That project, together with tank car and truck service, will handle an estimated 30,000 bbl. a day.

SUMMARY OF COMPLETIONS

Oil wells:	No.	Bbl.	Footage
Bay County	1	55	2,871
Clare County	1	75	3,120
Isabella County	1	70	3,620
Osceola County	7	41,968	25,175
Van Buren Co.	1	125	1,285
Dry holes	13	.....	27,331
Total	24	.....	63,402

Last week's completions report listed four producers in addition to the seven at Reed City, nine dry holes and four other tests abandoned temporarily. Meanwhile, the State Conservation Department issued 24 more drilling permits. Van Buren and Osceola counties each received six, Isabella and Montcalm two, while one permit apiece went to Bay, Gratiot, Allegan, Clare, Roscommon, Gladwin, Lake and Kent counties. Total for the year was increased to 613.

Michigan basin activities were quiet. Cementing difficulties delayed Gulf Refining Co. plans to perforate casing in its plugged-back Bateson deep test in Bay County. Prospects were that Pure Oil Co. 1 State, offset to the Eugene Hilliard Roscommon County discovery, will not produce in the Traverse, making a deeper test likely for the east offset. Three others tests are drilling in that area, three others due to start.

In Clare County Freeman Oil Co. completed 1 Sample, north offset to a Sun Oil Co. well in Winterfield for production after acid of 75 bbl. a day. L. C. MacGregor added another Monitor Township producer in Bay County completing 1 Staudacher as a 55-bbl. well.

AVERAGE DAILY PRODUCTION

	Sept. 6
Temple	5,160
Buckeye	1,580
Walker	3,590
Van Buren County	2,580
Allegan County	3,495
Wise	897
Adams	2,805
Winterfield	4,120
Reed City	12,460
Total Michigan	49,860

MICHIGAN COMPLETIONS

Allegan County

Casco Township: N. N. Smith 1 Skinner, SE SE SE 33-1n-16w, wildcat, dry, T.D. 1,506 ft.

Cheshire Township: Miller Bros. 1 Pope, SW NE NW 11-1n-14w, wildcat, dry, T.D. 1,364 ft.

Ganges Township: Charles L. Stoskopf 1 Wolbrink & Brunson, NE NW SW 4-2n-16w, wildcat, dry, T.D. 1,552 ft.

Arenac County

Clayton Township: Will C. Mee B-3 Seig-

(Continued on Page 90)

It's a Fact

Johnston

A FROTHY FORMATION OF COOL BEER WAS THE HAPPY STRIKE IN A WELL DRILLED YEARS AGO IN THE RICH FIELDS NEAR FRANKLIN, PENNSYLVANIA. WHILE DRILLING HIGH UP ON "THE POINT" OVERLOOKING THE ALLEGHENY RIVER, THE BIT SUDDENLY DROPPED AWAY. TO TEST CONDITIONS, THE BAILER WAS RUN... AND WHEN IT CAME UP FULL OF ICE-COLD BEER, ALL OPERATIONS IMMEDIATELY STOPPED WHILE EVERYONE GATHERED 'ROUND TO TONSIL-TEST THE MARVELOUS DISCOVERY. THE FACT THAT THE AREA NOT ONLY PRODUCED EXCEPTIONALLY GOOD LUBRICATING OIL, BUT "OIL OF JOY" AS WELL, WAS ENOUGH TO DELIGHT THE HEART OF ANY OIL MAN. TRUTH OF THE MATTER WAS, THE BIT HAD ENTERED AN UNDERGROUND CAVE WHERE A NEARBY BREWER STORED HIS BEER!

FREAK DISCOVERIES ARE NO SURPRISE IN THE OIL INDUSTRY...BUT THEY'RE FEW AND FAR BETWEEN TODAY. THAT'S BECAUSE OPERATORS DRILL THEIR WELLS ACCURATELY AND FAR MORE SCIENTIFICALLY. THEY USE THE JOHNSTON FORMATION TESTER TO TEST EACH LIKELY ZONE ENCOUNTERED IN THEIR WELLS... DON'T PASS UP A ZONE UNTIL THE TESTER TELLS WHETHER IT IS WET OR DRY—WHETHER IT WILL PRODUCE OIL OR GAS. THE JOHNSTON TESTER TESTS THE WELL UNDER ACTUAL PRODUCING CONDITIONS, BEFORE CASING IS SET, THEREBY GIVING AN EXACT PICTURE OF PRODUCTION POSSIBILITIES WITHOUT THE EXPENSE OF SETTING CASING AND BAILING. OPERATORS SAVE TIME, SAVE WORK, SAVE CASING, AND DEVELOP EVERY WELL TO ITS UTMOST PROFIT POSSIBILITIES!

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CANADIAN FIELDS

Production Remains High; Wells Near Completion

By VICTOR LAURISTON

CHATHAM, Ont.; Sept. 8.—Crude and natural-gasoline production from all Alberta fields for the week ending August 25 totaled 27,523 bbl. daily compared with 27,652 bbl. daily for the previous week and 27,175 bbl. daily for the corresponding week last year. The daily average included 26,583 bbl. of crude and 690 bbl. of natural gasoline from Turner Valley and 250 bbl. crude from other fields. There were 184 producing wells, 31 drilling, 3 finished, 10 testing, 1 shut down, 5 new wells spudded, and 1 drilling license issued.

Official figures show New Brunswick production for May totaled 2,135 bbl. compared with 1,916 bbl. in April and 2,514 bbl. in May 1940. For the 5 months of 1941 the total was 9,614 bbl. against 4,648 bbl. in the corresponding period last year.

Ontario production for May was 13,897 bbl. against 13,383 bbl. for April and 16,024 bbl. for May 1940. For the 5 months' period of 1941 the Ontario output was 66,282 bbl. against 76,652 bbl. for the same period last year.

Natural-gas production marketed from all Canadian fields in May totaled 2,676,783,000 cu. ft. compared with 3,069,276,000 cu. ft. in April and 2,227,939,000 cu. ft. in May 1940.

Turner Valley Quotas

The Alberta Conservation Board set a daily allotment of 26,000 bbl. for 161 Turner Valley crude producers for September. This allotment has been maintained since January 1941; and represents a total for September of 780,000 bbl. of which 495,000 bbl. is normal conservation allotment and the remainder an extra war-emergency allotment.

In the new schedule, the largest producers are: Home Oil 7, 785 bbl. daily; Miracle Royalties 1, with 749 bbl. daily; Home Oil 2, with 739 bbl.; Alberta Oil Incomes 2, with 627 bbl.; Home Oil 1, with 529 bbl.; and Lion-Sunray 1, with 503 bbl. All except the Lion-Sunray well are in North Turner Valley.

Gas production from 97 gas-naphtha wells in Turner Valley is continued at 50,000,000 cu. ft. daily for September, the same figure as prevailed for July and August.

Turner Valley Lime Tests

North Turner Valley: Miracle Royalties 1, LSD 3, 4-21-3w5, T.D. 8,010 ft., Madison 7,524 ft., flowed up to 800 bbl. daily, and has been given an allowable of 749 bbl.

Major Oils 2, LSD 12, 4-21-3w5, got Madison at 7,825 ft., deepening below 7,888 ft. This proves the lime approximately ¼ mi. north of the nearest producer.

Ace Royalties 1, LSD 5, 4-21-3w5, below 8,586 ft., Madison at 8,335 ft.

Royalite-Model 1, LSD 1, 22-20-3w5, T.D. 7,600 ft., Madison at 7,013 ft., acidizing and testing.

West Central section: Argus Royalties 2, LSD 3, 25-19-3w5, finished at 7,858 ft., Madison at 7,625 ft., finishing in upper porous zone without drilling to lower lime, preparing for government test.

Renown Royalties 1, LSD 8, 24-19-3w5, below 7,590 ft., Madison lime at 7,490 ft.

Calmont-Northwest 4, LSD 2, 18-19-2w5, T.D. 7,268 ft., Madison at 6,833 ft., acidizing and testing.

Royalite Oil 59, LSD 15, 7-19-2w5, below 6,966 ft., Madison at 6,860 ft.

Royalite Oil 57, LSD 2, 7-19-2w5, T.D. 7,765 ft., Madison 7,315 ft., acidiz-

(Continued on Page 90)

Northeastern Colorado Wildcat Reports Showing in Dakota

By T. R. INGRAM

DENVER, Colo., Sept. 11.—The Mutual Oil Co. 1 State, C SW SW 32-7n-51w, an important wildcat in Logan County, Colorado, in the northeastern part of the state, has reached a critical stage, and developments within the next week or two are expected to determine whether a new lease play is in the offing. The well is shut down at 4,840 ft., waiting for casing before drilling into the Dakota sand. At this depth it is reported 5 ft. in the Dakota and to have shown saturation, but the possibilities for a discovery will not be known until the 6⅝-in. is run, and the well is unloaded and tested. The Muddy sand was drilled at approximately 4,718-50 ft. and is reported to have shown saturation in the cores, but it will not be tested until after the possibilities in the Dakota are determined. There was a 10-ft. sand above these horizons which will also be tested for oil and gas. The plan is to go back to these horizons and explore their possibilities through the perforated casing after the hole has been deepened into the Dakota. The well is strictly a wildcat to the north and northwest of the eastern Colorado play several years ago. It is also about 50 miles to the northeast of the Greasewood pool which inaugurated considerable wildcatting in northeastern Colorado 10 years ago. The well is on state land and is surrounded by the largest block of state leases upon which any test has been drilled.

Glacier Production 8 Miller, SE NE 32-33n-5w, in the Cut Bank field, Montana, located in an area of small producers, flowed 472 bbl. in 24 hours at 2,965 ft. while still in the Cut Bank sand. It was then deepened 6 ft. and is now swabbing and testing. The main pay was in the lower Cut Bank at 2,945-71 ft., a thicker section than usually is found in that horizon.

A. E. Crumley & Son 22 Fryberger, in the Kevin-Sunburst field, which was reported a completion last week flowing 70 to 104 bbl. an hour, made 12 bbl. an hour on the pump after settling down. It has not yet shown any water.

West States 1 Unit, reported a discovery last week on the Canyon Creek structure in Sweetwater County, Wyoming, for 727,000 cu. ft. of gas from a sand in the Wasatch at 2,688-2,710 ft., made 1,500,000 cu. ft. on final gage. It makes the fourth field producing from the Tertiary in that general area, the others being Powder Wash, Hiawatha and La Barge.

SUMMARY OF COMPLETIONS

Wyoming

	No.	Bbl.	Footage
Oil wells: Fields	1	150	1,135
Dry: Fields	1	.....	220

Montana

	No.	Bbl.	Footage
Oil wells: Fields	5	925	13,061

Northwest New Mexico

	No.	Bbl.	Footage
Oil wells: Fields	1	68	1,663

COLORADO DRILLING REPORT

Cheyenne County: Elmer E. Whitson et al 1 Christian, C NW SE 12-13s-49w, location, waiting on rig from Mutual well in Logan County.

El Paso County: F. F. Hintze 1 State, CEL SE SE 16-11s-60w, drilling 2,520 ft.

La Plata County: N. Splatter 1-X Bruce, C SW SW 31-33n-9w, S.D. 4,450 ft.

E. B. Klem 1 Olbert, NW SW 9-35n-12w, drilling 4,213 ft.

Logan County: Mutual Oil 1 State, C SW SW 32-7n-51w, T.D. 4,840 ft., will run 6⅝-in. (see lead above).

Moffat County: Mountain Fuel Supply 9 Wilson, NE SE NE 22-12n-100w, rigging rotary to go to 2,500 ft.

Privett & Spangler 1 Stillings, NE SE SE 12-5n-96w, T.D. 1,000 ft., straightening crooked hole at 700 ft.

Mountain Fuel Supply 2 Lasher, NW NE NE 25-12n-101w, drilling 2,512 ft.

Carr & Greer 1 Govt., C SW NE 24-5n-94w, drilling 1,310 ft., West Axial district, formerly A. L. Greer.

Texas 13 Knowlton, Lot 8, 10-4n-91w, location, first report, Moffat field.

Rio Blanco County: Buford Oil 1 Government, C SW SW 16-1n-91w, S.D. 4,527 ft. for casing.

Texas-California 7 Unit, NE SW SE 34-3n-9w, drilling 5,722 ft.

United Oil Producers 1 Hill, Lot 13, 6-1n-101w, drilling 710 ft. shale.

WYOMING COMPLETIONS

La Barge field, Sublette County: Texas 1-A Govt., NW NW NW 34-27n-113w, T.D. 1,135 ft., plugged back to first Wasatch sand and completed at 1,099 ft. for 150 bbl. a day on the pump.

Osage field, Weston County: Bert Higgins 8 fee, NE NW SW 4-46n-63w, dry and abandoned at 220 ft.

WYOMING DRILLING REPORT

Carbon County: Sinclair-Wyoming 22-A Wertz, CEL SE SE 1-26n-90w, T.D. 6,099 ft., fishing.

Glen Swartout 3 Union Pacific, NE NE SE 21-22n-78w, S.D. 880 ft.

Sinclair-Wyoming 26 Wertz, NW SE SE 1-26n-90w, rig.

Sinclair-Wyoming 25 Wertz, NW SE SW 6-26n-89w, drilling 1,300 ft.

Sinclair-Wyoming 24 Wertz, NW NW SW 7-26n-89w, cellar.

Sinclair-Wyoming 25-C, SE SE NW 25-26n-87w, drilling 1,600 ft.

Ohio 4 Harrison & Cooper, NW SE 27-20n-78w, T.D. 3,673 ft., cmtd. 5½-in. on top Dakota 3,659 ft.

Sinclair-Wyoming 21-A Wertz, SW NW SW 6-26n-89w, drilling 5,900 ft. in Tensleep.

Sinclair-Wyoming 5-F Mahoney, C NE NW 34-26n-88w, T.D. 3,753 ft., fishing drill pipe, top Sundance 2,690 ft.

Sinclair-Wyoming 1 Mary Carter, NE SE SE 31-25n-88w, location.

Sinclair-Wyoming 27 Wertz, CSL NW SW 6-26n-89w, cellar, first report, outside well on north side Wertz field.

Fremont County: Indian Oil 3 Tribal, NW SW NW 23-6n-2w, underreaming at 610 ft. to lower 10-in.

Bison Basin Oil 1 Kirk, CEL NW SW 17-27-95w, drilling 4,514 ft. in dolomite and red shale (lower Embar).

Kirk Oil 5 Tribal, C NE SE 22-6n-2w, T.D. 325 ft., straightening crooked hole.

Natrona County: General Pet. 33-22-P, NW SE NW 22-35n-77w, drilling 3,420 ft.

Casper Creek Oil 1 State, SW SW NW 36-36n-81w, T.D. 2,612 ft., preparing to run 6¼-in.

Iba Development 1, C NE SE 25-32n-82w, drilling 1,612 ft. in sand, top 1,611 ft.

K. S. Albert 1 Young, C NE SE 25-32n-82w, drilling 1,615 ft., carrying 5⅛-in. at 1,600 ft.

Stanolind 21 SD-3, NE SW NW 35-40n-79w, drilling 2,378 ft., first report, formerly Wyoming Associated 21-L, Salt Creek, drilling deeper from Lakota sand at old total depth of 2,340 ft.

Niobrara County: Ohio 10 A. Rohiff, SW NE 32-36n-65w, T.D. 5,370 ft., cemented 7-in. at 5,356 ft., swabbed 43 bbl. oil, 100 bbl. water in 11 hr. after acid 1,000 gal.

Argo 17-B Elliott, SW NE NE 6-35n-65w, T.D. 5,462 ft., P.B. 5,260 ft., swabbed 42 bbl. water in 9 hr., through perforations at 4,998-5,014 ft., then made 400,000 cu. ft. gas on 20/64-in. bean, testing.

Western Petroleum 1 Mosier, SW SW 31-35n-64w, S.D. 1,003 ft., repairs.

Continental 9-A Schuricht, NW NW SW 5-35n-65w, drilling 5,250 ft. lime, top first Leo 5,066 ft.

Continental 14 O. Rohiff, NW NW SW 32-36n-65w, drilling 3,930 ft., top first Sundance 3,795 ft.

Lewis Gokel 2, CEL SW SE 2-34n-63w, drilling 130 ft.

Park County: Stanolind 21-X Rosenberg, NE SW NW 25-58n-98w, T.D. 3,037 ft., testing.

Standard 11-X Rosenberg, SE NE NE 26-58n-98w, coring 3,128 ft.

MacKinney Oil & Drilling 1 Northern Pacific, CNL NW NW 5-57n-99w, T.D. 1,944 ft., testing, did not respond to acid at 1,904 ft.

Enalnac Oil & Gas 3 Purple, NW NW SE 32-51n-100w, drilling 1,125 ft.

Sublette County: North La Barge Oil 9 Government, CSL NE NE 28-27n-113w, T.D. 1,286 ft., P.B. to 1,135 ft., testing.

Marvel Oil 2 Government, C NE SE 28-27n-113w, rigging cable tools (cor.).

Texas 3-J Government, NE SW SW 27-27n-113w, location.

Sweetwater County: Rocky Mountain Drilling 1 State, SW SW SW 36-20n-104w, S.D. 6,447 ft.

Gus Pongratz 1 Clark, C NW NE 22-14n-104w, drilling 6,300 ft. in phosphoria beds.

Farson Oil & Gas 1 Government, C SE NE 18-25n-108w, drilling 1,470 ft.

Sinclair-Wyoming 102 Lost Soldier, SE SE SE 3-26n-90w, cemented 13⅜-in. 414 ft.

Vermilion Oil 1 Government, SW NE NE 6-12n-99w, S.D. 1,860 ft. for parts.

Sinclair-Wyoming 8 Hughes, SW SW SW 2-26n-90w, building rig.

Weston County: Bert Higgins 1 Bock, CNL SW NW 5-46n-63w, drilling 100 ft., first report, Osage field.

C. L. Foster, tr., No. 4, NW SW SE 7-46n-63w, rig, first report.

Carl Kundy No. 3, NE NE NW 32-46n-63w, rigging up.

Updike Brothers No. 2, NW SW SE 35-46n-64w, drilling below 500 ft.

MONTANA COMPLETIONS

Cut Bank field, Glacier County: Glacier Prod. 8 Miller, CEL SE NE 32-33n-5w, T.D. 2,971 ft., 7-in., 2,936 ft., Sunburst dry at 2,876-90 ft., Cut Bank sand 2,934-71 ft., main pay 2,945-71 ft., flowed 472 bbl. in 24 hr. at 2,965 ft., then deepened to 2,971 ft., testing.

A. R. Pardue 3 Tribal-186, SW NW NW 20-32n-5w, T.D. 2,690 ft., 7-in. 2,619 ft., Sunburst dry at 2,570-90 ft., show of oil at 2,615-41 ft., Cut Bank 2,650-80 ft., main pay, 2,670-80 ft., swabbed 136 bbl. first 24 hr.

Texas 3 Lindquist, C NE NE 20-32n-5w, T.D. 2,820 ft., 7-in. 2,780 ft., Cut Bank sand 2,770-2,804 ft., main pay 2,785-2,802 ft., swabbed 48 bbl. first 24 hr.

Ralph E. Davis 1 Tribal-205, NE SE NE 25-32n-6w, T.D. 3,030 ft., 7-in. 3,003 ft., show oil in Sunburst 2,955-65 ft., Cut Bank sand 2,994-3,028 ft., 1,800 ft. oil, main pay 3,018-28 ft., swabbed 172 bbl. first 24 hr.

Kevin-Sunburst field, Toole County: Enfield Oil 5 Zachor, SE SE NW 20-35n-1w, T.D. 1,550 ft., contact 1,540-50 ft., show for 2½ bailers per hr., acid, 1,000 gal., pumped 97 bbl. first 24 hr.

MONTANA DRILLING REPORT

Blaine County: Independent Natural Gas 1 Cole, NW NW NW 11-31n-19e, drilling 280 ft., 8⅝-in. 105 ft. (formerly Montana-Dakota Utilities).

Carbon County: Continental 1 Merrill, SW SW SW 34-9s-25e, T.D. 3,512 ft., cmtd. 7-in.

Miracle Oil 2 Govt., CWL NE SE 3-6s-23e, T.D. 2,338 ft., cleaning out to resume.

Fallon County: Carter 1 Northern Pacific unit, C SE SW 19-4n-62e, coring 8,405 ft.

Glacier County: Par Oil 1 Tribal-204, NE NE SE 13-32n-6w, running 7-in. 2,720 ft.

Texas 7 Curren, C SE NW 8-32n-5w, location.

Texas 2 Lander, C NE SE 20-35n-6w, drilling 1,435 ft., top Colorado 760 ft., 10¾-in. 747 ft.

Hanlon 1 Tribal-196, NE NE NE 30-32n-5w, drilling 740 ft., top Colorado 460 ft., 10¾-in. 490 ft.

Castle-Pardee 1 Tribal-197, SE NE NW 30-32n-5w, running 10¾-in. 595 ft., top Colorado 565 ft.

A. B. Cobb-Texas 1 Mueller, NW NW SW 2-35n-6w, cmtd. 7-in. 2,958 ft.

Santa Rita Oil & Gas 4 Rasmussen, SE SW SW 33-33n-5w, drilling 750 ft., top Colorado 460 ft., 10¾-in. 496 ft.

A. B. Cobb 1 Tribal-202, SE SE NE 24-32n-6w, drilling 1,140 ft., cmtd. 10¾-in. 554 ft.

Texas 7 Curren, C SE NW 8-32n-5w, location, first report.

Glacier Prod. 1 Petters unit, C 31-34n-4w, drilling 690 ft., 10¾-in. 307 ft.

Par Oil 1 Tribal-200, SE SW SE 13-32n-6w, spudded.

Wright Haggerty 1 Tribal, SE SW SW 18-32n-5w, rigging.

Santa Rita Oil & Gas 5 Rasmussen, CWL NE SE 32-33n-5w, spudded.

McDonald, Henderson, Overcash 2 Tribal-190, SW NW NW 29-32n-5w, drilling 2,400 ft., cmtd. 8¼-in. 2,304 ft., 2½ bailers water per hr. at 2,215-40 ft.

Consolidated Gas 4 State, NW SW NE 26-35n-6w, cmtd. 10¾-in. 485 ft., top Colorado 430 ft.

Liberty County: Montana-Dakota Utilities 1 Oswood, C NE SW 18-35n-4e, T.D. 2,925 ft., testing shutoff, water sand 2,920-23 ft.

Western Natural Gas 3 Brown, SW NE SW 20-37n-4e, drilling 500 ft., Colorado shale.

Teton County: R. C. Tarrant 1 Kellogg, SW NW NE 33-27n-5w, T.D. 2,580 ft., cleaning out.

Toole County: R. G. Parrant 1 McAlpine, SW NW SE 25-37n-3w, S.D. 280 ft.

Casper T. Olen 3 Government, NW SW NE 14-35n-2w, T.D. 1,517 ft., contact 1,512-17 ft., 6⅝-in. 1,460 ft., 400 ft. oil in hole, running tubing.

Nenstad Oil 2 Hugi, NE SE NW 11-35n-3w, T.D. 1,844 ft., acid, second time, no results, standing.

R. G. Parrant 1 Bannister, SW SE SW 35-37n-3w, S.D. 40 ft. (cor.).

E. W. Morton 3 Ellingson, CNL NE NW 23-35n-3w, standing 1,724 ft.

Frank P. Walsh 1 Halverson, C SE NW 18-35n-2e, drilling 600 ft.

Big West Oil 1 State, NE NE NW 13-35n-4w, drilling 1,710 ft., top Kootenai 1,655 ft.

Hannah Porter 2 Donovan, C SE NE 35-33n-2w, T.D. 1,348 ft., cmtd. 7-in. on bottom.

C. Leonard Smith 1 Lewis, NE SW NW 34-33n-2e, standing 748 ft.

Washington Oil 1 Unz, C NW SW 9-36n-2w, drilling 1,510 ft.

Montana-Dakota Utilities 325 Elvig-State, C SW NE

(Continued on Page 88)

California Fields

(Continued from Page 71)

ft. in oil sand and shale, preparing to complete, elev. 21 ft.

Loma Grande district, Monterey County: Loma Grande Oil Co. 1 Corey, 23-24s-10e, T.D. 3,790 ft. in shale, fishing drill pipe, elev. 1,500 ft.

Newhall district, Los Angeles County: Aztec Oil Co. 1 Sanborn, 6-3n-16w, drilling 5,070 ft. in Miocene sandy shale, elev. 1,516 ft.

Kenneth Oil Prod. Co. 1 Shepherd, 34-4n-15w, T.D. 2,160 ft. in sand and shale, P.B. 850 ft. to redrill, elev. 2,000 ft.

St. Anthony Oil Co. 1 La Salle, 10-3n-16w, drilling 5,416 ft. in very hard brown shale, does not look very promising, elev. 1,480 ft.

Tunnel Oil Co. 1 Needham, 13-3n-16w, T.D. 1,760 ft. in gray water sand, 8⅝-in. casing cemented 1,520 ft., P.B. 1,703 ft., cored oil sand, shale, and sand 1,564-1,700 ft., locating water, elev. 1,681 ft.

R. W. Young 1 Walker, 11-4n-16w, drilling 2,880 ft. in hard sand and shale, had oil and gas shows on ditch, elev. 1,254 ft.

Oak Canyon district, Los Angeles County: Western Gulf 1 Wickham, 31-5n-17w, drilling 131 ft. in sand, is being drilled by Kern Drilling Co., elev. 1,916 ft.

Rincon district, Ventura County: C. C. M. Oil Co. 3-C Hobson, 17-3n-24w, drilling 9,390 ft. in hard tight oil sand, elev. 245 ft.

San Martinez district, Los Angeles County: Bankline Oil Co. 1 Videgain, 17-4n-17w, drilling 6,420 ft. in shale and oil sand, top Miocene 5,858 ft., elev. 1,719 ft.

Standard 1 Sepulveda, 17-4n-17w, drilling 4,792 ft. in sand, elev. 1,359 ft.

Ohio 1 Vasquez, 17-4n-17w, drilling in sand and shale 5,770 ft., elev. 1,718 ft.

Towsley Canyon, Los Angeles County: Barnsdall and Ambassador Pet. 1 Limebocker, 17-3n-16w, drilling in sand 1,472 ft., P.B. 718 ft. to straighten hole redrilling 939 ft., elev. 1,680 ft.

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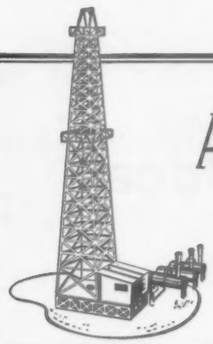

Among the Drilling

GEORGE CALLAHAN, Albany, Tex., contractor, has started a wildcat test in Crosby County, Texas, in conjunction with C. L. Wagner. The operation is designated 1 Wahlenmaier on a 5,000-acre block in Section 1, Abstract 417, 2 miles southwest of Crosbytown and northeast of Post, Tex. Contract calls for drilling to 3,200 ft. or the Clear Fork lime.

ADDISON Drilling Co., Midland, Tex., has received contract to drill three wildcat tests in Eddy County, New Mexico, for the account of Culbertson & Irwin, Inc. The Addison company is now moving cable tools to the first location.

WILL I. (BILL) LEWIS, Mount Vernon, Ill., has rigs drilling on wells contracted from the Magnolia Petroleum Co. in Edwards County, Illinois, the Seaboard Oil Co. in the Dahlgren area of Hamilton County and the Kewanee Oil Co. in the West Dale pool of Hamilton County.

OWNBY Drilling Co., Dallas, Tex., soon will start a 3,100-ft. wildcat test in western Mitchell County, Texas, between the Westbrook and Iatan fields. Location is on the Morrison farm, NE 34-29-1n, T.&P. Survey.

LUPHER Drilling Co., Mount Pleasant, Mich., has contracted to drill four new Michigan wells for Pure Oil Co. The contractor is starting 1 Clyde Morrison in 25-18n-11w, Lake County: B-1 C. I. Richards, 1 I. E. Mitchell and 4 Mary Lomp in Sections 19, 30 and 31, respectively, Township 18n-10w. Osceola County, Michigan.

SHIELDS & SHIRLEY Drilling Co., Mount Pleasant, Mich., is moving tools for L. & S. Drilling Co. 1 Fred Nelson in 19-14n-5w, Isabella County, Michigan.

OSAGE Drilling Co., Midland, Tex., has taken contract to drill a wildcat test in northwestern Gaines County, Texas, 2 miles east of the New Mexico line for Likens and Hall, Midland operators. Contract calls for drilling to 7,200 ft. The test is to be drilled on the Dr. E. H. Jones ranch and is supported by Argo Oil Corp., Atlantic Refining Co. and Stanolind Oil & Gas Co.

PIONEER Drilling Co., Evansville, Ind., extended the Johnsonville field, Wayne County, Illinois, 1 mile north by completion of 1 J. F. Williamson, C S½ SW NE 22-1n-6e, which flowed at the initial rate of 50 bbl. per hour from McClosky without benefit of acid treatment.

OLSON Drilling Co., Tulsa, has received contract from Gulf Refining Co. to drill 1 Charles Lindner, C S½ SE SE 19-18n-10w, Osceola County, Michigan.

HELMERICH & PAYNE, Tulsa contractors, have made location for 1 J. M. Batchler, in Section 219, T.E. &L. Survey, Throckmorton County, Texas.

EUGENE HILLIARD, Mount Pleasant, Mich., is associated with Ohio Oil Co. in starting their 1 State, C S½ NW SE 34-21n-3w, Roscommon County, Michigan.

MAC Drilling Co., Houston, Tex., has contract for drilling Stanolind Oil & Gas Co. 1 James F. Parker, an operation projected to 8,500 ft. 8 miles southeast of Spurger in Tyler County, Texas.

PHINNEY BROTHERS, Mount Pleasant, Mich., are moving in tools and preparing to drill Fortney & Broughton 1 McElheny, NW NW SE 12-1s-14w, Van Buren County, Michigan.

MOHAWK Drilling Co. and Oil Carriers, Inc., 1 Silas Stewart, NE NE NE 11-6s-2e, Franklin County, Illinois, indicates commercial production from the lower Ohara pay at 2,789-94 ft. The operation is 1½ miles north of Benton, Ill.

RICHMOND Drilling Co., Midland, Tex., is deepening its prospective discovery midway between the Maljamar and Vacuum fields in western Lea County, New Mexico, after results of a pumping test of a showing above 4,589 ft. proved disappointing. The prospect was treated with 1,000 gal. of acid when bottomed at 4,589 ft. Later, a swabbing test resulted in production of 1½ bbl. of oil hourly. When put on pump, the production declined to 1 bbl. of fluid every 6 to 8 hours and consisted of 60 per cent salt water.

GLENN H. McCARTHY, Houston, Tex., drilling for himself in the Magnolia area, Montgomery County, Texas, has prospects of opening a new Wilcox sand producing area for the Texas Gulf Coast district as his 1 Sayle showed gas-distillate on a drill-stem test and drilling continues

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Book Department
THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Contractors

below 8,500 ft. in the Chocolate Bayou area, Brazoria County, Texas, a production test is being made on an important outpost well, which Mr. McCarthy is drilling, while in the Double Gum area, Liberty County, drilling continues below 7,882 ft. in 1 Craig.

RED IRON Drilling Co., Shreveport, La., has been awarded contract for drilling Loyce Phillips et al 1 Mary Snider in the J. P. Moseley Survey, a northeast extension location to the Hawkins field, Wood County, Texas.

CROSBY Drilling Co., Houston, Tex., is moving in a rotary to Fort Bend County, Texas, for Providence Oil Co. et al 1 Hrusek in the Gail Borden Survey. Another rotary is running in the Lissie area, Wharton County, Texas, for the contractor's 1 Poole.

HELMERICH & PAYNE, Inc., have been contracted by Taubert & McKee, Fort Worth, Tex., operators, to deepen the R. A. Conkling 1 Hoefle which they have taken over. The test, located in the A. James Survey, Abstract 318, 4 miles southeast of Antelope, Jack County, Texas, has been shut down at 3,128 ft. It will be deepened to 5,500 ft. in an attempt to find production from the Mississippi lime.

FALCON-SEABOARD Drilling Co., Houston, Tex., extended gas-distillate production in the McAllen field, Hidalgo County, Texas, about 5,100 ft. southwest in 1 Arizona-Texas Citrus Co., drilled for the W. R. Davis Co., Inc. The well flowed gas and distillate when completed through perforated casing below 8,000 ft.

RICHMOND Drilling Co., Midland, Tex., will soon move in rotary equipment to drill Ray Albaugh 1 Handley, 660 ft. from the south and 1,980 ft. from the west lines of Section 36, Block M, E.L.&R. Survey, in Northwest Dawson County, Texas. Contract depth is 5,250 ft. unless production is encountered at shallower depth.

FARRELL Drilling Co., Fort Worth, Tex., plans a 6,500-ft. test on the J. R. Gillam farm, 2 miles northeast of Mart, Limestone County, Texas. Location is in the J. S. Spence Survey on a block of 18,000 acres out of which several spreads have been sold to supporting companies. The depth projected is expected to test the Smackover lime.

LOFFLAND BROTHERS, Houston, Tex., are attempting to extend production in the Willamar field, Willacy County, Texas, 1 mile west as Pan American 1 Burges was being tested through perforated casing in a new sand for the field at 7,708-32 ft.

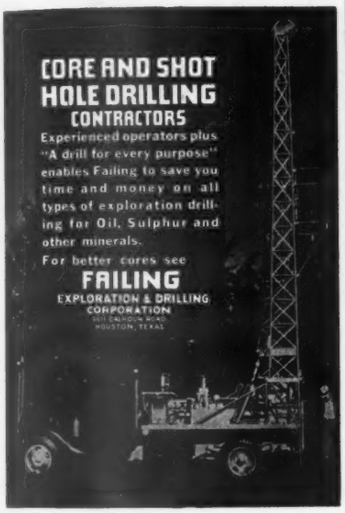
ALLEN & MORRIS, San Antonio, Tex., received contract from the Standard Oil Co. of Texas for 1 K. J. Hocker, a 5,500-ft. wildcat test in the Palo Blanco area, Brooks County, Texas.

STROTHERS BROS. & SONS will use cable tools in deepening from 1,824 ft. to 5,300 ft. the Fred Devore and J. B. Slade 1 Kleen, an old wildcat in Swisher County, Texas. The test is on a block of 14,097 acres and was shut down 2 years ago by Krupp & Flaherty. Location is in the center of the SW of Section 120, Block M-10, B.S.&F. Survey.

PARKER Drilling Co., Houston, Tex., opened gas-distillate production on the Point au Fer prospect, Terrebonne Parish, in coastal Louisiana, with the completion of Barnsdall 3 Nelson. Drilled to a total depth of 10,205 ft., 5½-in. casing was cemented at 6,828 ft., and the well was completed through perforated casing below 6,700 ft. Other operations are reported at Gueydan, Vermilion Parish; Port Allen, West Baton Rouge Parish, and at the Sabine Pass field, offshore from Jefferson County, Texas, in the Gulf of Mexico.

B. A. DUFFY, Abilene, Tex., contractor, is plugging back the new discovery well in Concho County, Texas, the Floyd C. Dodson 1 R. Wilson. The well has previously been plugged back to 4,094 ft. and will now be plugged to 3,819 ft. After the cement has been drilled out, a 5,000-gal. acid treatment is expected. Location is in the T. Green Survey 1, 10 miles southwest of Eden, Tex.

C. D. HAGERTY, San Angelo, Tex., contractor, is drilling below 2,583 ft. on a scheduled 3,250-ft. wildcat in Concho County, Texas, 5 miles northeast of Eden, Tex. The wildcat is the C. M. Joiner Leasing Corp. (formerly Natural Resources Corp.) 1 R. G. Armor, Section 105, T.&N.O. Survey. Drilling had been temporarily halted to shut off water.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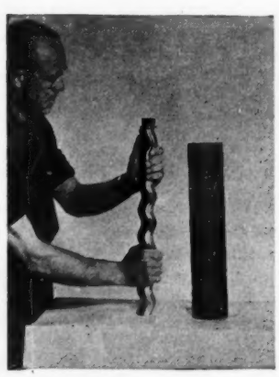

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First Pool Opener in Catahoula Parish Makes Oil and Water

By R. MARNE SANFORD

SHREVEPORT, La., Sept. 8.—After several weeks of testing Central Louisiana's newest Wilcox oil discovery was assured the past week at Carter and Phillips 1-B Tensas Delta Land Co., located in NE SE 15-5n-5e, in southern Catahoula Parish and just north of Larto Lake. As the week closed operators were preparing to shoot the pay section from 5,118-24 ft. in an attempt to increase the small oil flows of earlier in the week. The hole is bottomed at 6,000 ft. with 7-in. casing set at 5,504 ft.

Through perforations from 5,118-24 ft. in the Wilcox sand the well flowed 300 bbl. of fluid in 24 hours, about 60 per cent being salt water and the remainder oil. Tubing pressure was 60 lb. and casing pressure was 200 lb. The well reported the top of the Cockfield at 2,229 ft., Sparta at 2,983 ft., Cane River 3,695 ft., and oil sand from 5,110 to 5,132 ft.

This marks the opening of the first oil field for Catahoula Parish, the nearest production being just across the line west in the Walters field. It also marks the second strike for the two operating companies in the area and on a large block of leases taken for exploration some time ago. Early in the summer the joint operators' 1 Louisiana Hardwood Lumber Co., 12-6n-4e, in La Salle Parish, opened the Walters field.

New activity has already been started surrounding the oil discovery. H. L. Hunt of Dallas has taken several thousand acres in lease, mostly in Townships 6n and 7n, Range 6e, southern Catahoula Parish. Drilling of three Wilcox sand wildcats is contemplated by the operator, the first of which is to be staked soon. Meanwhile H. L. Hunt located two new Wilcox sand wildcats, one each in Winn and Tensas parishes. In the latter parish, Hunt 5 Chicago Mill & Lumber Co. is located in NE NW 1-11n-9e. In Winn Parish, 3-F Goodpine is located in SW NW 26-10n-2w.

Three-Mile Northeast Extension For Lisbon Field

In Claiborne Parish the Big West Drilling Co. 1 Alford, a wildcat 3 miles northeast of the Lisbon field and located in 11-21n-4w, has been completed for either a new discovery or a sizable extension to the field. With a total depth of 6,207 ft., plugged back to 5,313 ft., the well flowed 80 bbl. of distillate and 5,000,000 cu. ft. of gas daily. Pay is from the Travis Peak section of the Trinity with perforations between 5,098 and 5,112 ft.

Little Creek Field Gets Two-Mile Extension

Final completion of a well which extends production in the Little Creek field of La Salle Parish some 2 miles to the north was seen the past week when Placid Oil completed 7-A Tremont, NE SE 24-9n-1e. The well is producing from the Wilcox sand at a total depth of 2,547 ft. Through casing perforations from 2,475-78 ft., the well made a completion gage of 200 bbl. of oil and 100 bbl. of water, flowing, through ¼-in. choke. Immediate drilling is foreseen for the intervening area.

NORTH LOUISIANA COMPLETIONS

Wildcats

Natchitoches Parish: A. F. Carter 1 Culpepper, NW cor. 36½-8n-7w, T.D. 3,300 ft., dry.
W. A. Jacobson 1 Leopold, NE NW SE 33-11n-9w, top Midway 465 ft., T.D. 1,327 ft., dry.
Rapides Parish: M. H. Marr 1 Lee Lbr. Co., NE SW 6-5n-3e, T.D 6,120 ft., dry.
Winn Parish: H. L. Hunt 8-F Goodpine, NW SE 29-10n-1w, T.D. 4,003 ft., dry.
Hunt 9-F Goodpine, NE SW 9-10n-2w, T.D. 3,603 ft., dry.

Fields

Bellevue, Bossier Parish: T. G. Shaw 1 Kendrick, SE SE SW 22-19n-11w, T.D. 450 ft., dry.
Caddo, Caddo Parish: Bauman 1 Hamilton, SW NE SW 6-20n-15w, T.D. 1,573 ft., 7 bbl. oil and 25 bbl. salt water, 4,000 gal. acid.
A. R. Hancock 14 Helpman, SW SW SE 16-21n-16w, T.D. 1,020 ft., 15 bbl. oil and 25 bbl. salt water.

SUMMARY OF COMPLETIONS

North Louisiana

	No.	Bbl.	Footage
Oil: Caddo	6	307	9,454
Nebo	2	404	8,233
Little Creek	2	421	6,261
Cotton Valley	1	77	9,176
Olla	1	100	2,414
Gas: Monroe	2	*4.3	5,307
Dry: Bellevue	2	.....	450
Wildcats	5	.....	18,353
Total	20	.....	59,648

Arkansas

	No.	Bbl.	Footage
Oil: Atlanta	1	204	8,166
Dry: Wildcats	1	.....	2,254
Total	2	.....	10,420

*Million cu. ft.

Louisiana Oil Prod. 7-D Muslow, SW NE SE 5-20n-15w, T.D. 1,510 ft., 30 bbl. oil and no water, 4,000 gal. acid.
McDonald & Campbell 20 Youree, SW NW 13-20n-15w, T.D. 2,294 ft., 75 bbl. oil.
Texas Co. 13 Herndon, NW SE SW 14-21n-15w, T.D. 1,589 ft., 120 bbl. oil and 15 bbl. water, 4,000 gal. acid.
Texas Co. 11 Herold, NE SW 14-21n-15w, T.D. 1,468 ft., 60 bbl. oil and 10 bbl. water, 4,000 gal. acid.
Cotton Valley, Webster Parish: H. L. Hunt and Magnolia 1 Pruitt, NW NE SW 17-21n-9w, T.D. 9,176 ft., pay 8,674-79 ft., 77 bbl. oil and 68 bbl. water.
Little Creek, La Salle Parish: Placid Oil 6-B Goodpine, SW SE 29-9n-2e, T.D. 3,714 ft., 221 bbl. oil and 19 bbl. water.
Placid Oil 7-A Tremont, NE SE 24-9n-1e, T.D. 2,547 ft., 200 bbl. oil and 100 bbl. water.
Monroe, Union Parish: Interstate Nat. Gas 112 fee, NW SE 12-20n-3e, T.D. 2,134 ft., 2,340,000 cu. ft. gas.
N. & W. Corp. 1 Schneider, SE NW NE 21-21n-3e, T.D. 2,173 ft., 1,915,000 cu. ft. gas.
Nebo, La Salle Parish: H. L. Hunt 29-A Goodpine, NW SE 10-7n-3e, T.D. 4,137 ft., 270 bbl. oil and 5 bbl. water.
H. L. Hunt 58-F Goodpine, NE SW 10-7n-3e, T.D. 4,096 ft., 134 bbl. oil and no water.
Olla, La Salle Parish: H. L. Hunt 33-F Goodpine, C SE 18-10n-3e, T.D. 2,414 ft., 100 bbl. oil and 25 bbl. water.

NORTH LOUISIANA COMPLETIONS

(Week of August 23 to 30)

Wildcats

Avoyelles Parish: W. C. Brock 1 Snowden, NE SE 22-3n-5e, top Vicksburg 2,965 ft., Jackson 3,115 ft., Moody Br. 3,380 ft., Cockfield 3,430 ft., Sparta 4,040 ft., Cane River 4,820 ft., Wilcox 5,176 ft., dry at 7,210 ft.
Joe A. Humphrey 1 Brazee, SW NE 6-3n-3e, top Cockfield 3,103 ft., Wilcox 4,707 ft., dry at 6,390 ft.
West Carroll Parish: R. H. Crow 1 Bruce Lbr. Co., C SE 16-21n-9e, elev. 101 ft., T.D. 6,285 ft., dry, top Cane River 1,180 ft., Wilcox 1,505 ft., Midway 2,150 ft., Gas Rick 2,625 ft., Buckner 5,715 ft., Smackover lime 5,918 ft.
Winn Parish: H. L. Hunt 2-F Goodpine, NW SE 13-9n-3w, T.D. 4,667 ft., dry.

Fields

Bellevue, Bossier Parish: Permier Inv. Co. 48 Wyche, SW N½ NW 14-19n-11w, total depth 405 ft., pumped 10 bbl. daily.
Triangle Drlg. Co. 3-B Thigpen, NW SW 19-17n-11w, T.D. 3,156 ft., pumped 90 bbl. daily, 2,500 gal. acid.
Caddo, Caddo Parish: C. M. Bagley 2 Stiles, SE 32-21n-16w, T.D. 2,374 ft., pumped 10 bbl. daily.
J. M. Bailey 2 Noel, SW NE 12-20n-16w, T.D. 1,550 ft., pumped 5 bbl. daily.
Carter-Malcom-Aiken 1 Kechn, NW SW 7-20n-15w, T.D. 1,575 ft., pumped 15 bbl. daily, 4,000 gal. acid.
E. W. Goldrich 11 Muslow, NW SE 31-21n-15w, T. D. 1,582 ft., pumped 15 bbl. daily, 4,000 gal. acid.
C. L. Oblinger 2 Atlanta, SE NW 2-20n-16w, T.D. 1,002 ft., dry and abandoned.
F. O. Penn 2 Thigpen, NW SE 31-21n-15w, T.D. 1,585 ft., pumped 20 bbl. daily, 4,000 gal. acid.
Joe G Strohan 3-B Stiles, NE SW 32-21n-16w, T.D. 2,398 ft., flowed 150 bbl. daily, open flow.
Transport Oil 7 Crystal fee, NW SE 24-21n-16w, T.D. 1,012 ft., pumped 20 bbl. daily.
Lisbon, Claiborne Parish: Big West Drlg. Co. 1 Alford, SE NW 11-21-4w, T.D. 6,207 ft., P.B. to 5,313 ft., flowed 80 bbl. distillate and 5,000,000 cu. ft. gas.
Sugar Creek, Claiborne Parish: Hassie Hunt 1 Sapp, SW SE 12-19n-6w, T.D. 6,304 ft., perf. casing 5,876-88 ft. and 6,030-36 ft., tested dry, quit at 6,304 ft.
Olla, La Salle Parish: Arkansas Fuel 2-C Nugent, NE NW 25-10n-2e, T.D. 2,840 ft., perf. 2,765-80 ft., 1,360,000 cu. ft. gas.
H. L. Hunt 4 Southern Kraft, NW NE 19-10n-3e, T.D. 2,410 ft., perf. 2,210-15 ft., 130 bbl. fluid with 15 per cent salt water.
Placid Oil 105 La. Central, SW SE 19-10n-3e, T.D. 2,404 ft., perf. 2,246-53 ft., 4 bbl. fluid per hour with 6 per cent water.
Placid Oil 106 La. Central, SE SE 36-10n-2e, T.D. 2,437 ft., perf. 2,419-22 ft., 100 bbl. fluid daily, 10 per cent salt water.
Nebo, La Salle Parish: H. L. Hunt 57-F Goodpine, NE NW 16-7n-3e, T.D. 4,128 ft., perf. 3,514-20 ft., 250 bbl. fluid daily, 7 per cent salt water.
South Olla, La Salle Parish: Placid Oil 2 Tremont, SW SE 23-9n-2e, T.D. 4,153 ft., top Wilcox 1,808 ft., perf. 3,706-12 ft., tested salt water, dry at 4,153 ft.

NORTH LOUISIANA ACTIVE WILDCATS

Bienville Parish R:. E. Collins et al 1 Madden heirs, SW SW SE 3-16n-8w, S.D. 1,600 ft.
Caldwell Parish: Southern Carbon Co. 1 Howard, SW SE 13-14n-4e, T.D. 4,004 ft., perf. casing 3,859-62 ft., tested salt water, squeezed off.
Catahoula Parish: O. C. Borah 1 Womack, irregular 54-9n-5e, S.D. 2,535 ft.
Carter 1-B Tensas Delta Land Co., NE SE 15-5n-5e, top Cockfield 2,229 ft., Sparta 2,983 ft., Cane River 3,695 ft., Wilcox 3,938 ft., oil sand 5,110-32 ft., drilled ahead, set 7-in. casing 5,504 ft., T.D. 6,000 ft., prep. shoot.
Roy D. Fisher 1 Bradford, SW NW frac. 29-7n-5e, top Wilcox 3,145 ft., drilling 4,360 ft.
H. L. Hunt 2-A La. Central, NW SE 9-9n-6e, top Wilcox 3,037 ft., drilling 6,100 ft.
Claiborne Parish: Hunt Oil 1 Mitchiner, NE SW SW 15-23-7, top Massive 3,897 ft., base Massive 4,088 ft., base Stringer 4,182 ft., preparing test 4,098-4,118 ft.
Caddo Parish: R. E. Allson 1 Ellerbe, NW SE 27-18n-14w, rigging up.
De Soto Parish. J. E. Stock, Jr., et al 1 May Huson, NW NE 8-12n-14w, derrick.
Franklin Parish: S. J. Ryan 1 Womble, NW NW NW 11-12n-8e, S.D. 4,510 ft.
Grant Parish: Herton Oil 1 McNeely, SE SW NE 10-6n-3w, drilling 2,040 ft.
H. L. Hunt 5-F Goodpine, C SW SE 22-8n-1w, derrick.
H. L. Hunt 10-F Goodpine, C SE SE 34-9n-1w, location.
La Salle Parish: Delta Drilling 1 Hughes, NE NE SW 22-8n-1e, T.D. 4,092 ft., 5½-in. casing 1,509 ft., perf. 1,463-67 ft., tested 15,000,000 cu. ft. gas, squeezed, waiting on cement.
H. L. Hunt 19-F Goodpine, NE SW 36-9n-4e, top Wilcox 2,760 ft., coring 3,780 ft.
Joe L. May et al 1 La. Delta, SW NW 20-7n-4e, top Wilcox 2,655 ft., T.D. 4,510 ft., taking side-wall cores.
H. L. Hunt 18-F Goodpine, SW NW 4-6n-3e, top Wilcox 2,715 ft., coring 3,775 ft.
G. E. Lilly 1 Heard, NW SE 13-8n-3e, location.
Lincoln Parish: Thos. Richmond 1 Emery, 8-18n-1w, derrick.
Natchitoches Parish: E. H. Demetrio 1 Winn, SE NW 25-10-10, drilling 1,500 ft.
C. Porter Johnson 1 Lacaze, SE irregular 63-6n-4w, 12½-in. casing 205 ft.
Red River Parish: Republic 1 Timon, irregular 39-11n-9w, drilling 2,925 ft.
Tensas Parish: H. L. Hunt 5 Chicago Mill & Lbr. Co., C NE NW 1-11n-9e, location.
Vernon Parish: C. A. Kelsey 1 Mills, NE SE 31-3n-11w derrick.
Winn Parish H. L. Hunt 3-F Goodpine, C SW NW 26-10n-2w, location.

Lafayette County Wildcats Show Gas Near Top of Smackover Lime

Attention the past week was focused on two deep wildcats in Lafayette County, both proceeding ahead below the Smackover lime. Ohio 1 Garner, NW SW 13-16s-24w, was coring below 7,097 ft. after finding a slight show on drill-stem test at 6,945 ft. The test was made in the top few feet of the Smackover lime, which was topped at 6,937 ft. The other tops in the wildcat were Midway at 918 ft., Nacatoch sand 1,649 ft., Saratoga 2,116 ft., Buckner 6,670 ft.

In the same county Tide Water-Seaboard is coring ahead below 9,366 ft. after recovering a slight show on a 15-minute drill-stem test of the upper Smackover lime from 9,300-49 ft. The recovery was six stands of gas-cut mud. The Smackover was topped in this wildcat at 9,262 ft., while the Nacatoch sand was found at 1,820 ft., Saratoga at 2,210 ft., James 5,360 ft., and Buckner at 9,110 ft.

In Jefferson County a new wildcat has been staked by Curtis-Tow Oil as 1 Southern Kraft Co., located in the C SE NE 35-3s-11w.

Another closely watched wildcat is in Union County, where Delta Drilling Co. is proceeding ahead below 6,824 ft. at its 1 Pickering, SE NW 32-18s-16w. No shows of oil have yet been reported.

ARKANSAS COMPLETIONS

Wildcat, Union County: Consolidated 1 U.S.M., SW NE 15-18s-14w, T.D. 2,259 ft., dry.
Atlanta, Columbia County: Tide Water-Seaboard 2 Beene, NW NW 14-18s-19w, T.D 8,166 ft., 204 bbl. oil.

ARKANSAS ACTIVE WILDCATS

Clark County: Coker Oil 1 McMillan & Cane, SW NE NE 34-10-19, drilling 1,418 ft.
Coker, Grieves et al 2 Williams, NE NE 7-11-19, casing 605 ft.
Howard County: DeGrazier et al 1 Dierks Lumber Co., SW SW 7-8s-28w, drilling 1,032 ft.
Jefferson County: Curtis-Tow Oil 1 Southern Kraft Co., C SE NE 35-3s-11w, location.
(Continued on Page 87)

Best Clinton Sand Producers In Years in Clayton Pool

By STAFF CORRESPONDENT

NEW LEXINGTON, Ohio, Sept. 8.—The Clayton pool in Perry County, 6 miles north of here, gives indication of developing into one of the top Clinton fields in southeastern Ohio. No. 2 Margaret Shaw test by the Preston Oil Co. in Section 8, Clayton Township, flowed 575 bbl. of oil the first 24 hours after shot from the Clinton horizon at 3,260 ft.; 55 ft. of saturated sand was found. The well was making 50 bbl. naturally before shot. The oil in this area is Pennsylvania Grade. Other wells in this development have had initial productions ranging up to 333 bbl. but the latest find by the Preston Oil, the largest operator in the field, is the best producer to date and the largest well completed in Ohio for several years. A Pure Oil Co. test in the same pool had an initial production of 265 bbl.

Fair shallow-sand gassers were had in Lawrence and Meigs counties. Other completions were scattered and for the most part small. One encouraging feature was that only two dry holes were reported.

OHIO COMPLETIONS

Ashland County

Mohican Township: Ohio Fuel 2 Russell Sells, Sec. 4, 250,000 cu. ft. gas, Clinton, T.D. 2,986 ft.

Athens County

Lodi Township: A. D. Townsend 2 fee, Sec. 17, 100,000 cu. ft. gas, shot, second Berea, T.D. 1,755 ft.
Rome Township: Mathews Oil 4 Ottie Parsons, Sec. 11, dry, Injun (water), T.D. 1,351 ft.

Knox County

Howard Township: H. E. Perkins 3 Oregon Fike, 130,000 cu. ft. gas, Clinton, T.D. 2,730 ft.

Jefferson County

Cross Creek Township: Charles H. Jones 2 Charles W. Welling, SW Sec. 3, 2 bbl., Berea, T.D. 1,315 ft.

Lawrence County

Washington Township: Portage Producers 16 Cambria Clay Products Co., Sec. 13, 1,200,000 cu. ft. gas, Salt sand, T.D. 409 ft.

Licking County

Newton Township: Penick et al 5 Ray Eshelman, fourth quarter, dry, Clinton, T.D. 2,708 ft.
Newark Township: National Gas Co. 1 Harry Reddick, fourth quarter, 36 bbl., shot, Newburg, T.D. 2,069 ft.

Medina County

Hinckley Township: Ohio Fuel 1 John Lucas, Lot 47, 920,000 cu. ft. gas, shot, Clinton, T.D. 3,290 ft.
Ohio Fuel 1 D. Guanciger, Lot 58, 520,000 cu. ft. gas, Clinton, T.D. 3,455 ft.

Meigs County

Rutland Township: Ash et al 1 John Titus, Sec. 16, 1,500,000 cu. ft. gas, Maxon, T.D. 792 ft.
Sutton Township: Roush Bros. 4 Wilbur Roush, Sec. 30, 90,000 cu. ft. gas, shot, Ohio shales, T.D. 3,300 ft.
Tyree et al 1 Hannah Capehart, Sec. 30, 50,000 cu. ft. gas, shot, Ohio shales, T.D. 3,345 ft.

Morgan County

Marion Township: Williams Bros. 1 William V. Geddes, Sec. 5, 310,000 cu. ft. gas, Brill sand, T.D. 920 ft.

Monroe County

Perry Township: T. E. Drum 1 S. W. Hedleson, Sec. 23, dry, Injun sand, T.D. 1,582 ft.
Wayne Township: Gold Crown Oil & Gas Co. 2 Deborah Lucas, Sec. 19, 30,000 cu. ft. gas, shot, Keener (dry in Berea, T.D. 2,020 ft., P.B. to 1,470 ft.).

Muskingum County

Harrison Township: Industrial Gas Corp. 2 Boyce heirs, SE Sec. 2, dry, Clinton sand, T.D. 4,270 ft.

Noble County

Wayne Township: Willard Lashley et al 2 Muskingum Conservancy district, Sec. 3, 50,000 cu. ft. gas, shot, Berea, T.D. 1,340 ft.

Perry County

Clayton Township: Preston Oil Co. 2 Margaret Shaw, Sec. 8, 575 bbl., shot with 410 lb. gelatin, Clinton 3,209-64 ft., T.D. 3,269 ft.
Pure Oil Co. 1 Edith Wilson, Sec. 8, 265 bbl., shot, Clinton, T.D. 3,297 ft.
Thorn Township: Industrial Gas Corp. 1 J. H. Long (Humberger), SW Sec. 13, 220 bbl., Clinton sand, T.D. 2,790 ft.

Putnam County

Blanchard Township: H. P. Hubbell, 3 Robert Baker, Sec. 22, 4-bbl. pumper, shot, Trenton, T.D. 1,368 ft.

Washington County

Newport Township: Newport Oil Co. 22 Alvi Adkins, Sec. 27, 3 bbl., shot, first Cow Run, T.D. 428 ft.
Palmer Township: L. M. White 1 Jesse E. Staller, Lot 827, dry, Berea, T.D. 1,806 ft.

SUMMARY OF COMPLETIONS

Ohio

	No.	Bbl.	Footage
Oil	7	1,105	14,536
Gas	12	*5.2	26,342
Dry	5	.....	11,717
Total	24	.....	52,595

Indiana

	No.	Bbl.	Footage
Oil wells	4	190	10,258
Gas wells	1	*0.04	826
Dry holes	7	.....	11,711
Total	12	.....	22,795

Eastern Kentucky

	No.	Bbl.	Footage
Oil	4	50	3,335
Gas	2	*0.9	6,500
Total	6	.....	9,835

Western Kentucky

	No.	Bbl.	Footage
Oil	2	50	1,716
Gas	1	*2.5	1,273
Dry	5	.....	6,597
Total	8	.....	9,586
Recompletions	1	10	.....
Input wells	1	.....	936

*Million cu. ft.

INDIANA

EVANSVILLE, Ind., Sept. 8.—The often-disappointing north part of Point Township, Posey County, chalked up another failure last week, at least through the Tar Springs section, where Morgan Brown et al 1 M. Reichart, SE NW SE 25-7s-15w, was shut down on orders. Operators are considering drilling deeper. Although the test is structurally higher than a dry hole to the east, the Tar Springs section was shale and did not carry any sand.

Meanwhile, Morgenstern Oil Corp. 1 Harry Mentzer, SW NW NE 34-5s-14w, wildcat northeast of Savah, is drilling ahead at approximately 2,450 ft. with no commercial shows below the Hardinsburg sand.

GIBSON COUNTY.—R. N. Sylvester 1 Potts, SW NW SE 23-1n-10w, Gibson County wildcat about 3 miles east of Hazleton, is shut down at about 1,500 ft. awaiting casing to drill ahead.

INDIANA COMPLETIONS

Wildcats

Elkhart County: John H. McLean 1 Brandt, NW NW SW 30-37n-7w, dry at 598 ft., H.F.W.
M. C. Fletcher 1 Baughn, NE SE SE 13-38n-4e, dry at 1,929 ft.
Harrison County: Harrison Dev. 1 Kitner, SW SW NE 6-3s-4e, 40,000 cu. ft. gas, shot 75 lb. dynamite, Devonian 800-26 ft., T.D. 826 ft.
Jasper County: A. A. Douglas et al 1 Horton, SE NE NE 1-29n-5w, dry at 1,102 ft.
Posey County: Venoble-Myles et al 1 Graulich, SW NE SW 13-7s-13w, dry at 797 ft.
Paul Rossi 1 Dembesmeier, NW NW NE 32-6s-12w, dry at 2,451 ft., Glen Dean 2,135 ft., Barlow 2,410 ft., Cypress 2,442 ft.
Warrick County: Yankeetown Dev. 1 Taylor, SW SW NW 10-7s-8w, dry at 1,946 ft.

Fields

Bufkin South, Posey County: Hollandsworth & Bander 3 Egli, NE SW 19-6s-12w, pumped 143 bbl., 35-qt shot on bottom, T.D. 2,371 ft.
East Calvin, Posey County: Tide Water 14 Doll, SW SE NW SE 33-3s-14w, pumped 17 bbl. oil and 50 bbl. water, 1,000 gal. acid 2,867-74 ft., T.D. 2,912 ft.
Griffin, Gibson County: J. E. Amos et al 2 Cooper, NE NE NE 19-3s-13w, pumped 20 bbl., 10-qt. shot 2,095-99 ft., 40-qt. shot 2,088-2,104 ft., T.D. 2,105 ft.
South Griffin, Gibson County: Continental 29 Keck, NE SW SW 27-3s-14w, dry at 2,888 ft., Glen Dean 2,308 ft., Ste. Genevieve 2,826 ft., McClosky 2,882 ft.
South Griffin, Posey County: Cherry & Kidd et al 4 Gray, NW SE SW 35-3s-14w, pumped 10 bbl., 50-qt. shot 2,855-70 ft., Aux Vases 2,846 ft., T.D. 2,870 ft.

INDIANA DRILLING REPORT

Crawford County: Reece-Dietz et al 1 Esarey, NE NW NE 36-3s-1w, S.D. 1,200 ft.
Daviess County: Hartman et al 1 White, SW NW SW 22-2n-7w, drilling 2,715 ft.
R. D. Brown, Inc., 1 Chapman, SW SW 15-2n-6w, Glen Dean 585 ft., drilling 700 ft.
Gibson County: R. D. Brown 1 Watts, SW SW NW 29-2s-12w, Vienna 1,930 ft., Tar Springs 1,950 ft., drilling 1,975 ft.
R. N. Sylvester 1 Potts, W½ SW SW 24-1n-10w, S.D. 1,576 ft.
La Porte County: John E. Short 1 Stahley, W½ NW SE NE 33-36n-1w, drilling 000 ft.
Newton County: Palmer Corp. 1 Henkle, SE SE SE 36-30n-9w, T.D. 904 ft., underreaming 6-in. at 600 ft.
Posey County: Sloan et al 1 Seifert, N½ NW NW 30-6s-12w, drilling 1,000 ft.
Loveless et al 1 Dauswan, NE NW NE 27-6s-13w, drilling 750 ft.
Brown et al 1 Reichert, SE NW SE 25-7s-15w, S.D. 2,150 ft.
Pyramid Oil (was J. H. Guinn) 1 Allyn, NW NE SW 27-7s-14w, set 8-in. 102 ft., waiting on cement.
Morganstern Oil Corp. 1 Mentzger, SW NW NE 34-5s-14w, Glen Dean 2,345 ft., Barlow 2,580-2,601 ft., Cypress sand 2,636 ft., drilling 2,662 ft.
Spencer County: Goldsmith et al 1 Smith, SE SE SW 6-7s-7w, drilling 387 ft.
Goldsmith et al 1 Yeager, SW NE SE 6-7s-7w, drilling 1,062 ft. in dry sand.
Troy Refining et al 1 Huffman, NW SE SE 11-7s-7w, spud.
Jesse Wilson et al 1 B. A. Miller, SE SE NE NE 6-7s-7w, first report, 8-in. 68 ft., drilling 450 ft.
Sullivan County: W. J. Reynolds 1 Hyde, SW NE NE 9-8n-10w, S.D. 2,512 ft.
Paul Doran et al 1 Huff, S½ S½ S½ N½ 34-8n-10w, S.D. 540 ft.
O. A. Thayer 1 Wickey, NE NW 7-7n-9w, est. 1,250,000 cu. ft. gas 605-11 ft., water 618-25 ft., show oil 625-31 ft., water 631 ft., drilling 1,140 ft.
E. M. Self 1 James Land, NE NE NE 36-7n-9w, drilling 1,600 ft.
T. H. Drake 1 Curry, NE NW 11-9n-8w, drilling 1,475 ft.
Vigo County: Krauss-Ricketts et al 1 Hollenbeck, SW NE 14-10n-8w, Ste. Genevieve 715 ft., New Albany 1,683 ft., Devonian 1,770 ft., H.F.W. 1,890 ft., drilling 1,895 ft.

EASTERN KENTUCKY

ASHLAND, Ky., Sept. 8.—Four oil wells were reported completed in Powell County this week with a combined production of 50 bbl. per day. One gas well has been completed in Johnson County and final completion data have been received on wells reported last week. Other drilling activities remained on the same level during the week with only one new location reported.

Powell County

Henry Ball 3 W. C. Quin heirs, on Miller's Creek, 15 bbl. at 810 ft.
Pilot Properties 6 B. F. Creech, on Miller's Creek, 20 bbl. at 840 ft.
Pilot Properties 5 Miller Pruitt and Gulf, on Miller's Creek, 5 bbl. at 825 ft.
Agatha Wireman 5 Robert Boyd, at Sand Lick, 10 bbl. at 860 ft.

Oliver Jenkins has an open flow of 220,000 cu. ft. of gas from 1 Roby Horn, in Johnson County, 24 hours after shot.

Crate Rice and S. C. Allen et al, after cleaning out bridge after 180-qt. shot, have an open flow of 381,000 cu. ft. of gas, and are running tubing in well on Eli Ratliff land on Left Barnetts Creek in Johnson County. Contrary to unconfirmed reports received last week the well was making only 127,000 cu. ft. of gas before the shot.

Kentucky & West Virginia Gas Co. 5319 David Martin, Sly Branch, Knott County, making 1,100,000 cu. ft. on 1-hour test has settled down to an open flow of 793,000 cu. ft. in shale, 250 lb. pressure, and 33,000 cu. ft. of gas in Big lime, 155 lb. pressure. The same firm completed 5320 William Ford, Ford Branch, in Pike County, with an open flow of 103,000 cu. ft. from shale at 3,366 ft.

Drilling operations in eastern Kentucky are as follows:

Johnson County

Crete Rice and S. C. Allen et al 1 J. L. Preston, Stove Branch, 1,620 ft., brown shale.
Columbian Fuel, Fred Baldwin, 2,440 ft., Corniferous.
Columbian Fuel, Dav Davis, 2,000 ft., Corniferous.

Knott County

Inland Gas Corp. 225 Dan Martin, Big Branch, 1,825 ft., Maxon.
Kentucky-West Virginia Gas Co. operations:
5317 Jesse Bates, Dry Creek, 2,110 ft., Big lime.
5325 J. M. Gibson, Jones Fork, 2,684 ft., white slate.
5329 Richard Hall, Dick Hall Branch, 800 ft., Big lime.

Floyd County

Kentucky-West Virginia Gas Co. operations:
631 Lillie A. Runyon, 2,945 ft., running tubing.
636 Edmond Clark, 2,730 ft., running tubing.
637 Alex Martin, 2,650 ft., shale.
5301 James C. Jones, 2,587 ft., Big lime.
5311 James Osborne, Osborne Branch, 2,730 ft., shale.
5327 James Stratton, 1,922 ft., Big lime.

Pike County

Kentucky-West Virginia Gas Co. operations:
618 T. B. Blackburn, John's Creek, 2,773 ft., white slate.

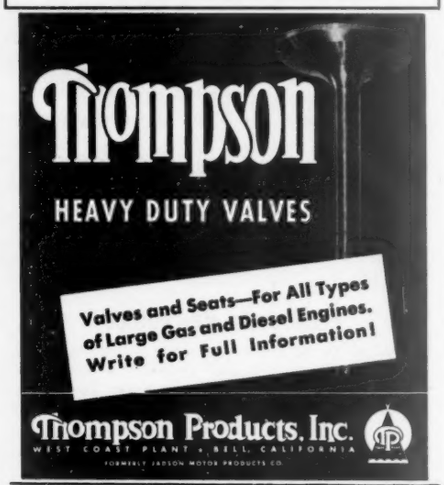
NO-CO-RO—
First and Foremost

No-Co-Ro was the first non-corrosive ball & seat. No-Co-Ro was the first non-corrosive drop and seat.

Today, No-Co-Ro balls and seats and drops and seats are the world's foremost oil well valve checks.

Manufactured only by:

NORRIS BROTHERS, INC.
ROBINSON, ILLINOIS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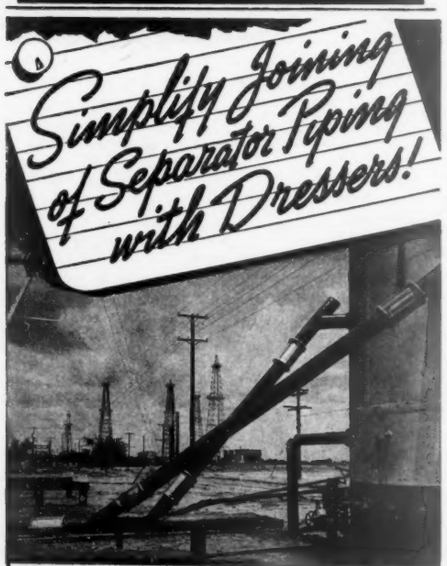
Thompson Products, Inc.
WEST COAST PLANT • BELL, CALIFORNIA



Separator inlet and outlet lines can be joined in a "jiffy" because Dressers eliminate tedious threading of pipe. No need for exact pipe lengths, work starting threads, exact lining up, etc. Only a wrench is needed to draw up bolts on Dresser Couplings. Remember, too, Dressers with their natural flexibility, withstand, without leakage, any vibration or shake in your separator piping. Simplify your work—use Dressers.

Write for new 36-page Oil-Field Catalog.

DRESSER
MANUFACTURING CO., BRADFORD, PA.

626 J. C. Mullins, Bushy Run, 2,394 ft., Berea.
5322 W. A. Campbell, Island Creek, 1,983 ft., Big lime.
5326 W. A. Burchett, Missouri Branch, 1,372 ft., Little lime.
5335 Mary Compton, Long Branch of Island Creek, 1,679 ft., Maxon.

WESTERN KENTUCKY

Breckinridge County

Cabot district: Evans 7 Keenan heirs, dry at 560 ft.

Butler County

Silver City district: Billy Phillips 8 Martha Hawes, drilling at 525 ft.

Daviess County

Utica district: Redwing & Shaffer 2 William Baird, dry through McClosky, T.D. 1,798 ft.
Pleasant Ridge district: Daugherty 7 W. A. Hewlett, 15 bbl., 20-qt. shot, stray sand 695-700 ft., T.D. 711 ft.
Birk City district: Jess Ashby 1 C. E. Jagoe, 10 bbl., old McClosky well plugged back to 1,685 ft., from 1,887 ft., 4,000 gal. acid, 60-qt. shot, Bethel sand 1,658-82 ft.
Cane Run School district: Cane Run Petroleum Co. 17 R. E. Jackson, completed pressure well; shot 200 lb. gelatin, Jett sand, 631-51 ft., T.D. 936 ft.
Red Hill district: Roy Mace et al 2 Len Sparks, dry at 1,011 ft.
United Petroleum Co. 5 Perry Thomas, 35 bbl., 40-qt. shot, Jett sand, 982-1,000 ft., T.D. 1,005 ft.

Henderson County

Hebbardsville district: Hupp 6 Otto Busby (King-Pruitt Min.) drilling at 160 ft.
Snowden & McSweeney 2 Sally Conway, location.
Uniontown district: Glen Dial and Joe Minton 1 Sneed, location.

Muhlenberg County

Weir district: C. D. Lambert 1 Roy Jones, 2,500,000 cu. ft. gas; acidized 1,000 gal., McClosky sand, 1,256-59 ft., T.D. 1,273 ft.

Ohio County

Fordsville district: A. E. Elliott et al 3 B. L. Withers dry at 853 ft.
United Petroleum Co. 6 Lanham heirs, spudding in.
Deanfield district: Burgess et al 8 S. F. Whiteley, dry through Barlow, T.D. 630 ft.
Boling et al 4 Frank Hanna, drilling at 150 ft.

Union County

Uniontown district: Glen Dial and Joe Minton 1 Betty Deacon, dry at 2,756 ft.
Boxville district: Toombs & Smith 1 C. B. Waller, location.

Oklahoma Fields

(Continued from Page 62)

Maud, Pottawatomie County: Atlantic Refining 4 Merkle, NWC NE 32-8-5, swabbed 8 bbl. an hr., 10-qt. shot 4,340-46 ft. in Wilcox.
North St. Louis, Pottawatomie County: Vierson 1 Tiffin, SW NE NW 27-4-8, flowed 845 bbl. through choke, 38-gravity oil, Hunton 3,893 ft., T.D. 3,916 ft.
Amerada 1 Weifelt, NE NW NE 34-8-4, flowed 406 bbl., 3,000 gal. acid, Hunton 3,826 ft., T.D. 3,897 ft.
North Beebe: Big Chief Drlg. et al 2 Harrah, NW SW SW 10-5-5, pumped 5 bbl. oil and 1 bbl. water 2,000 gal. acid, Hunton 2,364 ft., 1,500 gal. reacid, T.D. 2,608 ft.
Oakman, Pontotoc County: King 1 Crawford, NE NE SW 11-4-6, swabbed 15 bbl. 5-qt. shot 1,175-81 ft., sand 1,173-98 ft., T.D. 1,202 ft.
Okemah, Okfuskee County: Grimes 2-A Dodson, N½ NE SE 35-11-9, pumped 15 bbl., 35-qt. shot 1,497-1,515 ft., T.D. 1,515 ft.
Oklahoma City, Oklahoma County: Cities Service 7 Wisel, SE SW SE 26-11-3w, pumped 340 bbl., 72-qt. shot 6,556-6,604 ft., Simpson 6,526 ft., Wilcox 6,531 ft., T.D. 6,604 ft.
J. E. Trigg & Angerson et al 1 Weaver, 1,419 ft. N and 576 ft. W C 10-11-3w, pumped 367 bbl., Wilcox 6,325-6,485 ft., T.D. 6,485 ft.
Pollyanna, Okmulgee County: Harbinson 1 Kouplen, SW NW SE 1-15-11, dry at 1,823 ft., H.F.W.
St. Louis, Pottawatomie County: Sinclair Prairie 1 Rice-B, NE NW NW 17-7-4, pumped 661 bbl. oil and 787 bbl. water in 17 hr., 3,000 gal. acid, dense 4,020 ft., second Wilcox 4,216 ft., P.B. 4,112 ft., perf. 4,045-53 ft., 4,053-61 ft.
Sasakwa, Seminole County: Eason 1-A Van Buskir, SE NW 7-6-8, dry at 2,895 ft.
Southwest Beggs, Okmulgee County: W. O. Schock 4 McKee, NW SE 17-4-11, swabbed 175 bbl., lower Dutcher 2,416-34 ft.
Tussy, Carter County: Phillips 2 R. Lee, NE SW SE 5-1s-3w, pumped 125 bbl., perf. 3,129-43 ft., 3,063-93 ft., Tussy 2,953-66 ft., sand 3,066-86 ft., T.D. 3,175 ft.
Samedan 1 McCrory, SW NE SE 5-1s-3w, pumped 27 bbl. 21.6-gravity oil, perf. 2,879-89 ft., Tussy 2,927-32 ft., T.D. 3,044 ft.
Velma, Stephens County: Magnolia 27 Dillard, SW NE NE 2-2s-5w, pumped 11 bbl. in 6 hr., pumped off, 20-qt. shot, sand 428-50 ft., 650-89 ft., T.D. 689 ft.
West Earlsboro, Pottawatomie County: Simpson-Fell 1 Billington, C SW SE 24-9n-4e, flowed 169 bbl. in 12 hr., T.D. 4,195 ft.
West Earlsboro, Pottawatomie County: Simpson-Fell 2 Billington, NE SE 24-9-4, flowed 480 bbl., acid., Hunton 4,095-4,153 ft., T.D. 4,153 ft.
West Earlsboro, Seminole County: Mudge 2 Bowling, SE NW NW 25-9-4, flowed 118 bbl., Viola 4,360 ft., T.D. 4,408 ft.
West Hewitt, Carter County: Gibson 11 Herrell, SE SW NW 20-4s-2w, flowed 723 bbl. through tubing, T.D. 2,221 ft.
Gibson & Jennings 7 Walker-Voorhees, SE SE NE 20-4s-2w, pumped 120 bbl., sand 2,270-2,309 ft., T.D. 2,309 ft.
Turner 9 Stearns, SW SE SW 21-4s-2w, pumped 10 bbl., sand 2,336-61 ft., T.D. 2,370 ft.
Tide Water 6 Ward, NE SE NE 19-4s-2w, flowed 140 bbl., sand 2,176 ft., T.D. 2,234 ft.
Gibson 11 Griffen, NE NE SE 20-4s-2w, pumped 140 bbl., sand 2,238-66 ft., 2,134-46 ft., T.D. 2,298 ft.
West Hotulke, Pottawatomie County: Smith 1 Billington, SE SE SE 22-9-4, pumped 256 bbl. oil and 205 bbl. water, Viola 4,323 ft., Wilcox 4,429 ft.

Miscellaneous Pools

Creek County: Zephyr 1 Bishop, SW NE 3-17n-8e, pumped 84 bbl. oil and 14 bbl. water, 160-qt. shot 2,325-85 ft., Prue 2,328-87 ft., T.D. 2,387 ft.
Tide Water 8 Jackson, NE SW SW 2-17n-7e, pumped 30 bbl. oil and 8 bbl. water, Arbuckle 2,610 ft., T.D. 2,664 ft.

AVERAGE DAILY PRODUCTION

LEADING OKLAHOMA FIELDS

	Sept. 6	Aug. 30
Allen	4,100	4,150
Billings	6,100	6,150
Burbank	8,000	8,200
South Burbank	7,300	7,450
Balance Osage	18,100	18,280
Blackwell district	3,500	3,550
Bristow-Slick	6,100	6,275
Coyle	4,000	4,075
Crescent	1,500	1,520
East Cromwell	2,500	3,200
Cromwell	2,700	2,880
Cumberland	6,500	6,500
Cushing-Shamrock	8,500	9,025
Dill	3,150	3,275
Duncan	3,150	3,525
Edmond	3,100	3,300
Fish	4,100	4,350
Fitts	11,050	11,250
Jesse	1,875	1,855
Graham-Fox	2,200	2,200
Guthrie	4,100	3,950
Healdton	8,325	8,520
Hewitt	16,100	16,800
Keokuk	2,950	2,975
Konawa	900	980
Lucien	5,250	5,900
Moore	900	950
Northeastern counties	17,500	17,320
Oklahoma City	98,350	86,210
Olympic	1,525	1,625
Ramsey	4,200	4,600
Sasakwa	1,000	1,220
Sholem-Alechem	2,350	2,575
Stroud, East	3,200	3,380
Seminole district:		
Bowlegs	5,975	6,025
Carr City	2,100	2,250
Dora	1,100	1,150
Earlsboro	3,350	3,625
East Earlsboro	1,600	1,625
South Earlsboro	500	475
Little River	6,275	6,520
East Little River	600	650
Mission	1,150	1,250
Seminole	6,025	6,100
East Seminole	800	975
Searight	1,625	1,825
Total Seminole	31,100	32,470
St. Louis-Pearson	16,900	17,420
Tatums-Tussy	5,075	6,280
Wewoka	1,650	1,950
Yale-Jennings	3,250	3,400
Total Oklahoma	427,975	430,720

West Central Texas Fields

(Continued from Page 66)

Miscellaneous Pool

Shackelford County: Weit & Honea 1 Dyer, dry at 880 ft.

WEST CENTRAL TEXAS ACTIVE WILDCATS

Brown County: R. H. Herring 1 Martin, 150 ft. from S and W lines, NE NE Sec. 44, H.T.&B. Sur., 1,600-ft. cable-tool test, first report.
Callahan County: George McCamey 1 Windham, 660 ft. from S and 150 ft. from E lines, Sec. 21, Victoria C.S.L. Sur., 1,500-ft. test, rigging up spudder.
Coleman County: Crabb & McNeel 1 Hanke, 150 ft. from N and 250 ft. from W lines, 80-ac. tract in N central part Mason Sur. 185, 750-ft. cable-tool test, first report.
Gant & Evans 1 Strickland, 200 ft. from N and 2,400 ft. from W lines of farm in Day Sur. 636, underreaming 7-in. casing from 1,380 ft., T.D. 1,485 ft.
McMillan & Rominger 1 Wilkerson, old well being worked over, 1,570 ft. from N and 587 ft. from W lines, Sec. 3, Blk. 2, G.H.&H. Sur., T.D. 2,823 ft., P.B. to 1,850 ft.
Merry Bros. & Perini 1 Greer, 1,283 ft. from S and 467 ft. from W lines, Lot 2, H. Kegans Sur. 520, drilling 1,150 ft.
States Oil Corp. 1 Hughes, 2,465 ft. from S and 2,335 ft. from W lines, Sec. 34, Blk. 2, G.H.&H. Sur., 3,600-ft. test, coring, T.D. 3,566 ft.
West Coast Prod. Corp. 1 Norris, SW cor. of NE 160 acres, J. Greenwood Sur. 304, drilling 3,010 ft.
Comanche County: L. H. Choate 1 Kirk, 467 ft. from S and E lines, P. D. Crump Sur. A-1905, 5,000-ft. test, drilling 2,765 ft.
Concho County: C. M. Joiner Leasing Corp. 1 Armor, 1,315 ft. from S and 330 ft. from W lines, Sec. 105, Blk. 72, T.&N.O. Sur., old well drilling deeper, old T.D. 1,565 ft., cleaning out at 2,540 ft. to drill ahead.
Eastland County: Dodds Oil 1 Hightower, NE SE Sec. 4, Blk. 3, H.&T.C. Sur., drilling 3,310 ft., by whipstock.
R. H. Gaddy 1 Vestal, 330 ft. from S and 1,755 ft. from W lines, S. Damon Sur., drilling 2,100 ft.
Stewart Oil 1 Shaeffer, 660 ft. from E and 1,980 ft. from S lines, 394-ac. farm in Moses Allen Sur. 26, 3,500-ft. test, S.D. 614 ft.
E. M. Thomason 1 Busbee, 1,320 ft. from N and 330 ft. from E lines, Sec. 7, Blk. 2, E.T. Sur., 900-ft. test, S.D. 240 ft., orders.
Fisher County: Shell Oil 1 Vaughn, 467 ft. from S and 1,787 ft. from W lines, Sec. 205, Blk. 21-V, H.& T.C. Sur., 7,250-ft. test, drilling 3,307 ft.
Hood County: J. M. Seaberry 1 Slocum Bros., 2,790 ft. from S and W lines, N. Smith Sur. A-512, Pat. 1-924, 2,500-ft. test, drilling 290 ft.
Jones County: T. J. Coyne 1 Clyburn, NW cor. tract

in Lots 24 and 27, Holt subd. of H. Millard Sur. 243, drilling 2,027 ft.

Fain-McGaha 1 Hollis, 330 ft. from E and 1,300 ft. from N lines, NW Sec. 26, Blk. 15, T.&P. Sur., drilling 1,120 ft.

T. D. Humphrey 1 Mary Triplett, 3,050 ft. from N and 330 ft. from W lines, James Coocher Sur. 199, testing 2,560 ft., T.D., showing oil and water.

S. B. Roberts 1 Cooper, SE SE SW Sec. 20, Blk. 15, T.&P. Sur., drilling 4,929 ft.

McCulloch County: D. H. Brock 1 Cox, 600 ft. from S and 2,640 ft. from E lines, Ludwig Javer Sur. 944, 1,500-ft. test, S.D. 975 ft.

C. M. Joiner 1 Lawson, 860 ft. from N and 550 ft. from E lines, V. Hohman Sur. 1093, 2,000-ft. test, cleaning out to drill ahead, T.D. 725 ft.

Mills County: Three Widows Oil 1 Burdett, 467 ft. from N and W lines, Lot 59, Hayes C.S.L. Sur., drilled to 3,266 ft., T.D.

Palo Pinto County: Hickok & Reynolds 3 Gauldin, 467 ft. from S and E lines, Sec. 1756, T.E.&L. Sur., 4,250-ft. test, drilling 1,410 ft.

Shackelford County: Aragon Oil 1 Walls Pasture, 6W cor. Sec. 39, B.A.L. Sur., S.D. 4,323 ft.

R. H. Roark 1 Elliott B, 660 ft. from S and E lines, SW Sec. 9, L.A.L. Sur., 5,000-ft. test, drilling 1,387 ft.

Somervell County: Plymouth Oil 1 Cousins, 456 ft. from SW and NE lines of tract in J. Echols Sur., 7,500-ft. test, drilling 4,541 ft.

Stephens County: T. S. Schroeder 1 Corbett, 2,200 ft. from E and 444 ft. from N lines, Sec. 12, Blk. 3, S.P. Sur., top Caddo lime 3,120 ft., drilling 3,425 ft.

T. G. Shaw 1 Stroud B, 330 ft. from N and 660 ft. from E lines, SW Green Newton Sur. A-128, drilling 4,290 ft.

Stonewall County: Shell 1-A Patterson, 1,650 ft. from N and 990 ft. from W lines, Sec. 357, Blk. D, H.&T.C. Sur., Ellenburger test, drilling 5,190 ft.

Taylor County: Deep Oil Dev. 1 Higgins, 330 ft. from N and E lines, Lot 8, Sec. 3, Corley Sur., 2,850-ft. test, drilling 1,810 ft.

Ce-Beth Oil 1 City of Abilene, south shore of Lake Abilene on city property, S.D. 4,122 ft.

Hedrick Oil 1 Arrant, 2,970 ft. from N and 330 ft. from W lines, Sec. 53, Blk. 16, T.&P. Sur., 2,500-ft. cable-tool test, first report.

Lewis Prod. 1 Huddleston, 330 ft. from N and W lines, Lot 6, Grimes C.S.L. Sur. 124, 2,850-ft. test, drilling 2,430 ft.

North Louisiana-Arkansas

(Continued from Page 84)

Lafayette County: Ohio 1 Garner, NW SW 13-16s-24w, top Midway 913 ft., Nacatoch 1,649 ft., Saratoga 2,116 ft., Buckner 6,670 ft., Smackover 6,937 ft., coring 7,097 ft.

Tide Water-Seaboard 1 Moore, SW SE 29-17-24, top Nacatoch 1,820 ft., Saratoga 2,210 ft., Paluxy 3,410 ft., James 5,360 ft., Buckner 9,110 ft., Smackover 9,262 ft., coring 9,366 ft.

Lee County: Stanley A. Thompson 1 Comer, NE NE NE 17-3n-2e, S.D. 3,365 ft.

Nevada County: Coker Oil Co. 1 Dewoody, NE NW SW 23-11s-20w, drilling 1,000 ft.

Ouachita County: Theodore Davis 1 Fort Smith Timber & Land Co., NW SW 16-12-17w, S.D. 35 ft.

Prairie County: Alvin E. Stark 1 Fidelity Mutual, NE NE SW 16-2n-6w, S.D. 1,300 ft.

Saline County: A. W. Given 1 Williams, NW NE NE 18-3s-15w, T.D. 1,090 ft., S.D.

Union County: Delta Drilling 1 Pickering, SE NW 32-18s-16w, drilling 6,824 ft.

AVERAGE DAILY PRODUCTION

NORTH LOUISIANA

	Sept. 6	Aug. 30
Caddo light	6,210	6,030
Caddo heavy	2,300	2,150
Cotton Valley	16,825	19,312
Cross Lake	2,835	2,790
De Soto and Red River	995	1,000
Haynesville	2,675	2,725
Homer	2,860	2,820
Lisbon	2,795	2,600
Nebo	3,085	2,020
Olla	13,295	13,315
Rodessa	13,750	13,820
Sligo	2,500	2,715
Sugar Creek	1,440	1,520
Urania	2,190	2,185
Zwolle	1,055	1,135
Total North Louisiana	78,450	79,415

SOUTH ARKANSAS

Atlanta	3,115	2,940
Buckner	2,235	2,265
Champagnolle	875	840
Dorcheat	2,350	2,525
El Dorado	1,460	1,460
Magnolia	20,000	19,621
Nick Springs	800	820
McKamie	4,300	4,100
Rodessa	1,350	1,380
Schuler	16,600	16,680
Smackover light	1,840	1,795
Smackover heavy	12,925	12,860
Troy	575	1,010
Urbana	1,025	2,300
Village	930	1,325
Total South Arkansas	75,120	74,220

MISSISSIPPI

Tinsley	52,915	47,250
Pickens	530	550
Total Mississippi	53,445	47,800

Three Tests Scheduled In Border Counties

Interest in the Texas border centered on wildcatting the past week as three new tests were reported preparing to get under way in as many different counties. In Sabine County Strum & Womack, Houston, were preparing to start a new test in the Pineland area and about 4 miles northeast of their most recent failure, the 1-A Santa Fe, in the Larkin Gross Survey, which went to 6,928 ft. The new operation is located in the J. R. Cloud Survey and will seek Wilcox sand production.

In Bowie County J. F. Morrissey and associates of Fort Worth have assembled a block preparatory to starting a Woodbine sand test. The 8,000-acre block is in the extreme northwest corner of the county and lies mostly in the J. W. Hancock and H. Fitzpatrick surveys. The footage of the location has not yet been announced.

Four miles northwest of Kildare in Cass County a Paluxy sand wildcat staked some time ago was reported preparing to start. It is J. G. Strahan 1 Taylor, in the Howard Reams Survey. Surface casing has already been cemented.

EAST TEXAS BORDER WILDCATS

Harrison County: Capps 1 H. L. Eldridge, J. B. Crain Sur., drilling 2,710 ft.

Marion County: W. M. Blackshear 1 Chatton, I. N. Jones Sur. 215, drilling 3,470 ft.

A. H. Carpenter et al 1 T. G. Allen, Robert Potter Sur., pumping salt water, scum oil, T.D. 2,605 ft.

Panola County: Crow Drilling 2 Frost, J. M. Woolworth Sur., coring 5,150 ft.

Sabine County: Sturm & Womack 1-A Keith, L. Groce Sur., S.D. 4,394 ft., may abandon, salt water.

San Augustine County: Roper & Todd 1 Long Bell. N. Hyden Sur., fishing 5,063 ft.

Permian Basin, Panhandle

(Continued from Page 74)

3, Block 1, Waxahachie Tap Ry. Co. Survey, Abstract 417, Certificate 115. The 3,200-ft. contract is expected to test the Clear Fork, lower Permian, lime.

A wildcat test 3¼ miles northwest of the Livermore-Ownby discovery in Yoakum County is being planned by Sinclair Prairie Oil Co. The wildcat will be 1 C. J. Kleiner, NW NW NW Section 436, Block D, J. Gibson Survey. Contract depth for the test, which is on a block of approximately 3,500 acres, is expected to be 5,000 ft.

NORTHERN WEST TEXAS COMPLETIONS

(24-hr. ratings based on last 3 hr. of 6-hr. gage)

Fields

Dockery-Robbins, Mitchell County: F. W. Merrick 2 Strain, elev. 2,270 ft., 216 bbl., 580-qt. shot 1,655-1,800 ft.

L. L. Walker 1 Badgett, elev. 2,282 ft., 210 bbl., 450-qt. shot, 1,687-1,777 ft.

Seminole, Gaines County: Amerada 6-A Matthews, elev. 3,432 ft., 939 bbl., ½-in. choke, 264-qt. shot, 5,194-5,370 ft.

Amerada 1-B Riley, elev. 3,349 ft., 617 bbl., ½-in. choke, 132-qt. shot, 5,197-5,285 ft.

Humble 4 Hahn, elev. 3,393 ft., 611 bbl., ½-in. choke, 5,110-5,310 ft.

Slaughter, Cochran County: Anderson-Prichard 2 Woolley, elev. 3,677 ft., 760 bbl., 14,600 gal. acid, 4,922-70 ft., P.B. from 5,046 ft.

Anderson-Prichard 3 Woolley, elev. 3,676 ft., 891 bbl., 10,000 gal. acid, 4,922-75 ft.

Honolulu Oil 1-C Mallett, elev. 3,644 ft., 134 bbl., 4,500 gal. acid, 4,996-5,048 ft., P.B. from 5,105 ft.

Slaughter, Hockley County: S. E. Cone 1 Hensley, elev. 3,588 ft., 836 bbl., 4,000 gal. acid, 4,780-4,975 ft.

Delta Drlg. 2 Veal-Slaughter, elev. 3,600 ft., 1,515 bbl., 13,500 gal. acid, 2-in. casing outlet, 4,875-4,982 ft.

Honolulu Oil 20-B Slaughter, elev. 3,518 ft., 1,570 bbl., 2½-in. casing outlet, 10,000 gal. acid, 4,910-5,001 ft.

Magnolia 8-D Mallett, elev. 3,589 ft., 915 bbl., 2-in. casing outlet, 11,000 gal. acid, 4,910-85 ft.

S. W. Richardson 21-B Slaughter, elev. 3,568 ft., 591 bbl., 2-in. casing outlet, 3,000 gal. acid, perf. casing 4,875-4,920 ft., 4,940-50 ft.

Skelly Oil 4 Lincoln, elev. 3,577 ft., 1,179 bbl., 9,000 gal. acid, 4,900-5,000 ft.

Stanolind 14-A Slaughter, elev. 3,519 ft., 1,259 bbl., 2-in. casing outlet, 10,000 gal. acid, 4,930-5,055 ft.

Wasson, Gaines County: Continental and Carter 13-48 Wasson, elev. 3,544 ft., 883 bbl., 12,000 gal. acid, 4,874-4,964 ft.

Stanolind 5 Raynor, elev. 3,072 ft., 563 bbl., 4 per cent water, 4,725-4,819 ft.

Wasson, Yoakum County: Aloco Oil 2-A Bennett, elev. 3,581 ft., 400 bbl. oil, 11½ per cent water, 12,500 gal. acid, 5,090-5,300 ft., P.B. from 5,340 ft.

Aloco Oil 12 Keller, elev. 3,627 ft., 626 bbl., 10,000 gal. acid, 4,900-5,202 ft.

Humble 20 Bennett, elev. 3,589 ft., 400 bbl., ⅞-in. choke, 1,000 gal. acid, 5,100-5,242 ft.

Murchison 1 Sawyer, elev. 3,623 ft., old well drilled deeper, old T.D. 5,255 ft., top Glorietta 6,045 ft., junked at 6,850 ft.

Don Danvers 5-B Willard, elev. 3,611 ft., 1,093 bbl., 10,000 gal. acid, 5,060-5,280 ft.

NORTHERN WEST TEXAS ACTIVE WILDCATS

Andrews County: Mascho Oil 1 Texas-University, Sec. 11, Blk. 13, University Sur., T.D. 4,933 ft., sulfur water.

Mascho Oil 1 Fisher, NE NE SE Sec. 16, Blk. 36-A, P.S.L. Sur., prepare to acidize, T.D. 4,602 ft., recemented back to 4,590 ft., flowed 65 bbl. oil after 8,000 gal. acid.

Borden County: Coffield & Guthrie 1 Conrad, SE NW Sec. 79, Blk. 20, Lavaca Navigation Co., Sur., 7-in. 3,305 ft., S.D. 3,874 ft.

M. L. Richards 1 Drum, Sec. 307, Blk. 97, H.&T.C. Sur., drilling 2,240 ft.

Cochran County: O'Neal Drilling Co. 1 Wright, NE cor.

RYERSON CERTIFIED STEELS

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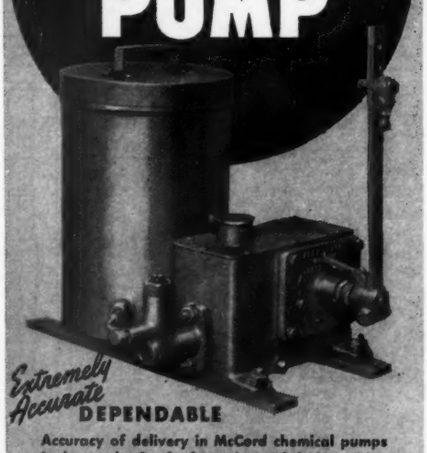

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Standard of the Oil Fields

McCORD
RADIATOR & MFG. CO., DETROIT, MICH.

Lbr. 12, Lge. 60, Martin C.S.L. Sur., 3 mi. N of Dean area, swabbed 60 bbl. fluid in 8 hr., 20 per cent basic sediment and sulfur water, perf. casing 4,835-80 ft., 5,000 gal. acid, swabbed 15 bbl. oil in 25 min. then died.

Crosby County: Geo. Callihan and C. L. Wagner. 1 E. M Wahlenmaier, 460 ft. from N and E lines Sec. 3, Blk. D-15, Waxahachie Tap Sur., 3,200-ft. test, first report.

Dawson County: Ray Albaugh 1 Handley, 1,980 ft. from W and 660 ft. from S lines Sec. 36, Blk. M, E.L. Sur., 5,250-ft. test, first report.

Stanolind 2 Scanlan, 660 ft. from S and E lines Sec. 87, Blk. M, E.L. Sur., prep. to deepen to 7,000 ft., T.D. 5,000 ft.

Gaines County: Amon G. Carter 4-D Wasson, NW SE Sec. 50, Blk. AX, P.S.L. Sur., set 5½-in. casing at 10,615 ft., T.D. 11,108 ft., tight well, no report.

Garza County: Ed McAdams 1 K. Stoker, 1,320 ft. from S and E lines NE¼ Sec. 942, Blk. 97, H.&T.C. Sur., 3,500-ft. test, fishing tools 2,528 ft.

Mitchell County: H. B. Owenby Drlg. 1 Morrison Oil & Royalty, 660 ft. from S and E lines SE of NE Sec. 34, Blk. 29, T.&P. Sur., 3,100-ft. test, first report.

Lubbock County: L. C. Harrison 1 Nairn, Sec. 25, Blk. A, John H. Gibson Sur., T.D. 5,002 ft., 460-qt. shot 4,884-5,002 ft. cleaning out, 2,410 ft. fluid in hole.

Lynn County: Uscan Drilling Co. (formerly Ross Sport) 1 J. E. Rice, 660 ft. from N and W lines Sec. 18, Blk. 11, E.L. Sur., drilling 5,320 ft.

Trinity Drlg. Co. 1 Auld, 1,980 ft. from S and W lines, Sec. 10, Blk. E, E.L.R.R. Sur., 5,200-ft. test, drilling 4,080 ft.

Mitchell County: G. R. Anderson 1 Simpson, 2,310 ft. from S and 330 ft. from E lines Sec. 65, Blk. 97, H.&T.C. Sur., drilling 998 ft.

Humble 1 Ellwood, 1,980 ft. out of E cor. Sec. 49, Blk. 16, S.P. Sur., 8,500-ft. test, top Clear Fork 2,130 ft., drilling 3,746 ft.

Motley County: Humble 1-D Matador, Sec. 127, Gibson Sur., 6,000-ft. test, drilling 3,389 ft.

Scurry County: Pearson & Sibert 1 Addison, 330 ft. from W and S lines S½ SE¼ Sec. 122, Blk. 25, H.&T.C. Sur., drilling 540 ft., first report.

Yoakum County: Shell 1 Hammer, Sec. 490, Gibson Sur., 4½-in. 5,235 ft., prepare to drill into pay.

Sinclair Prairie 1 Gibson, 330 ft. from N and W lines Sec. 436, Blk. D, Gibson Sur., 5,500-ft. test, first report.

TEXAS PANHANDLE

AMARILLO, Tex., Sept. 8.—Falling off considerably in the Panhandle district were the wells on the completion list. Last week 21 wells were tested for completion, 18 for oil and 3 for gas. This week 12 oil wells were completed with a total potential of 1,762 bbl.

Skelly Oil Co. 132 Schaffer ranch rated a potential of 300 bbl. on official gage for the greatest producer in the field. This is the second consecutive week that the Schaffer ranch lease has supplied the field's prize producer.

New locations fell off slightly this week with 21 drilling permits sought. Gray County continued to hold its lead, receiving 11 of the new tests. The remaining locations were as follows: Hutchinson County, six; Wheeler County, three, and Carson County, one.

SOUTHEAST NEW MEXICO

HOBBS, N. M., Sept. 8.—North central Chaves County gained location for a wildcat Saturday as J. O. Wood staked 1 J. L. Greene in NE SW 7-7s-29e. The test lies over 30 miles northeast of Roswell and is 2½ miles northeast of Elkins.

Hopes of production from Richmond Drilling Co. 1 Shell-State, West Lea wildcat midway between the Maljamar and Vacuum pools, were dim as it failed to log any increases in oil in deepening to 4,684 ft. in hard lime. It is making 1⅛ bailers of fluid, almost all water, every 8 hours.

At total depth of 4,589 ft., the well was acidized with 1,000 gal., and for a while swabbed 1½ bbl. an hour. It was put on pump and yield declined to 1 bbl. of fluid, 40 per cent oil and the rest salt water, every 6 to 8 hours. Location is in 22-17s-33e, in an area generally accepted as structurally high.

SOUTHEAST NEW MEXICO COMPLETIONS

South Lovington, Lea County: Stanolind 7-E State, S½ NE NE 2-17s-36e, flowed 55 bbl. in 18 hr., natural, 18/64-in. choke on 2-in. tubing, pay 4,635 ft., T.D. 4,990 ft.

Wildcat, Eddy County: Bryant & Sudderth 1 Willis, NW SE SE 14-20s-28e, 3,000,000 cu. ft. gas, pay 830 ft., T.D. 965 ft., P.B. 930 ft. *Gas discovery.*

Nebraska-Missouri

(Continued from Page 79)

acidization, the well making a south extension to the Falls City, Nebraska, pool. Pay is coming from 2,348 to 2,356 ft. The lower Hunton lime was cored, but the zone was plugged when some water showed and operators went back to the top of the lime. Campbell and Ohio Oil Co. seemed to have an east extension to the pool at their 1 Sandrock. It had 800 ft. of oil in the hole before acidization.

In the McLouth pool, Jefferson County, Kansas, both the Magnolia Petroleum Co. and McLaughlin Sons, Inc., had a new gasser each. There were a few dry holes in the pool, however, one duster being in Leavenworth County. The pool extends into that county on the east.

NEBRASKA DRILLING REPORT

Richardson County, Falls City Pool

R. L. Campbell 5 Schock . . . . . NE NW 29-1n-16e
Hunton 2,348 ft., perf. 2,348-52 ft., 2,352-56 ft., 2,402-06 ft., plugged off last perforations, 200 gal. acid, 300 gal. butane, 1,800 ft. oil, going on pump.

R. L. Campbell and Ohio Oil Co. 1 Sandrock . . . . . NE NE SE 20-1n-16e
Hunton 2,269 ft., perf. 2,285-89 ft., 800 ft. oil, to acidize.

Ohio Oil Co. 2 Keim-Workman . . . NE NE NW 18-1n-16e
Drilling at 1,850 ft.

Harry Harper 6 Sibbernsen . . . . SE NE NW 20-1n-16e
Drilling at 1,900 ft.

Skelly Oil Co. 5 Davisson . . . . SW NW NE 20-1n-16e
Drilling at 1,550 ft.

MISSOURI DRILLING REPORT

Caldwell County

John C. Hart 1 Bridgewater Bros. . NE NE 28-56n-28w
Elev. 883 ft., spudded.

Rocky Mountain Area

(Continued from Page 81)

36-34n-2w, drilling 1,125 ft., small show oil in Sunburst 1,105-10 ft.

Nepstad, Montgomery & Fargher 4 Haugin-1, SW SE SE 23-35n-3w, T.D. 1,050 ft., running 8¼-in.

Hat Oil 1 Mitchell, C NE SW 24-37n-3w, T.D. 1,090 ft., water sands 901 and 1,050 ft., running 10-in.

Pfabe & Engelking 1 Danielson, CNL SE NE 20-35n-1w, spudded, first report.

Henry Vander Pas 2 Solberg, SW SW SE 20-35n-3w, drilling 400 ft., first report.

NORTHWEST NEW MEXICO COMPLETIONS

Hospah field, McKinley County: Petroleum Products 16 State, NW SW SE 36-18n-9w, T.D. 1,663 ft., 68 bbl. per day from Hospah sand, some water.

NORTHWEST NEW MEXICO DRILLING REPORT

San Juan County: Al Greer 2 Thompson, SW SE SW 10-30n-11w, drilling 2,210 ft.

Carroll & Cornell 5 Cornell-Government, NE NE 13-29n-12w, drilling 850 ft., first report.

Torrance County: Cardinal Oil 1 State, SE SW 3-8n-14e, drilling 918 ft.

Orville J. Lee 1 Milburn, C NW SW 36-7n-7e, drilling 1,790 ft.

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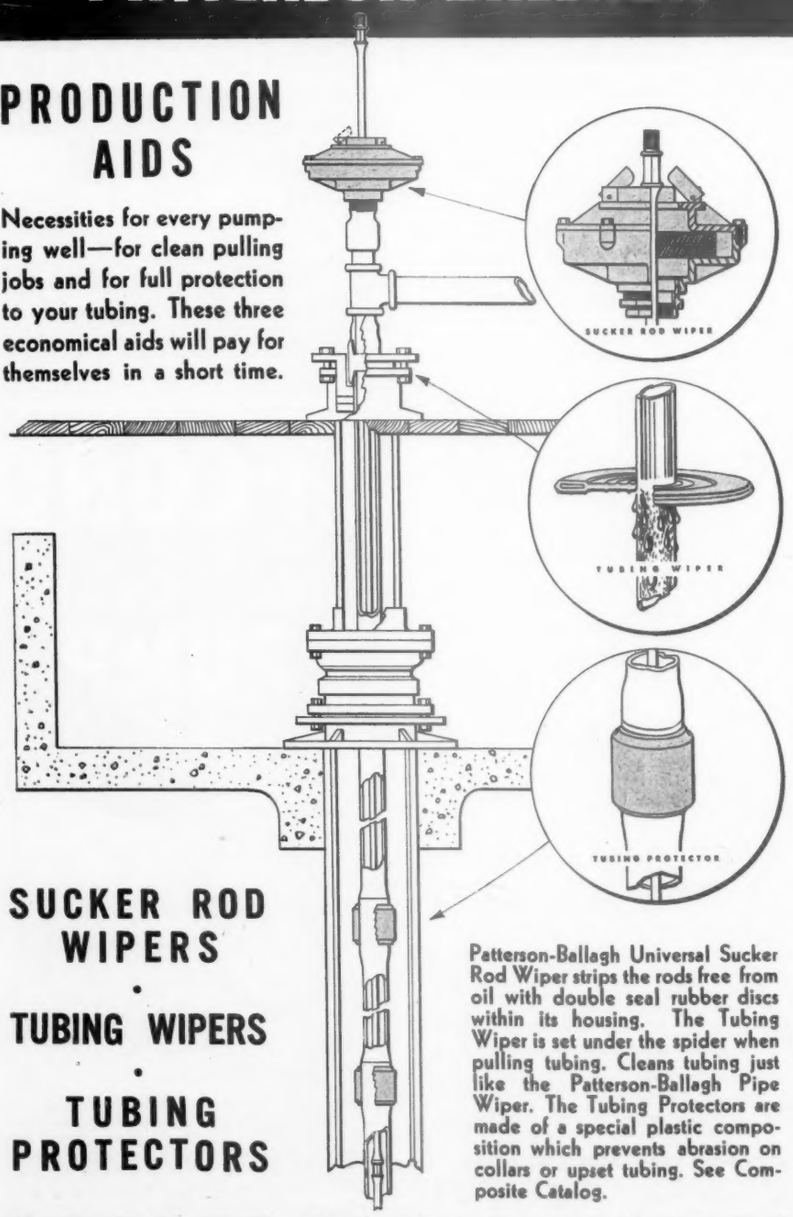

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Patterson-Ballagh Universal Sucker Rod Wiper strips the rods free from oil with double seal rubber discs within its housing. The Tubing Wiper is set under the spider when pulling tubing. Cleans tubing just like the Patterson-Ballagh Pipe Wiper. The Tubing Protectors are made of a special plastic composition which prevents abrasion on collars or upset tubing. See Composite Catalog.

PATTERSON-BALLAGH

Los Angeles Corporation Houston New York City

Point au Fer Proven for Gas-Distillate Production

By F. L. SINGLETON

NEW ORLEANS, Sept. 8.—The Point au Fer prospect, Terrebonne Parish, on which several deep wildcats have been drilled during the past few months, was proven for gas-distillate production as Barnsdall 3 Nelson flowed an estimated 4,000,000 cu. ft. of gas with a light spray of distillate while testing through a ¼-in. choke. Total depth of the hole is 10,205 ft., and the well is testing through perforated casing at 6,700-20 ft. The new discovery is located in the extreme southwest part of the parish in 35-20s-11e, northeast of previous development.

This discovery is the second to be opened in the parish within the past 2 weeks being located about 35 miles west of the Lapeyrouse field where Gulf 1 Picou was officially completed the past week for an initial production of 205 bbl. of fluid per day through a ¼-in. choke. Two per cent of the fluid was basic sediment and salt water. Tubing pressure was 3,700 lb. Gravity of the oil tested 41.5 degrees. Total depth of the well is 12,149 ft., and production is from perforated casing opposite oil sand at 10,942-46 ft. The sand section is the deepest of three sands logged by an electrical survey at 10,930-52 ft., 10,876-95 ft., and 10,850-64 ft. The well is located in 70-20s-18e, south of the town of Houma, and the rig is expected to be moved to 1 Duplantis about 1 mile northwest.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Fields	11	3,558	103,894
Dry holes: Fields	2	.....	18,243
Wildcats	4	.....	33,833
Total	17	.....	155,970

Bayou Sale Extended West

An extension of several hundred feet to the west was recorded for the Bayou Sale field, St. Mary Parish, as Humble Oil & Refining Co. completed the second producer for the structure. The extension well is 1 Canal Bank & Trust Co. in 16-16s-9e, completed through perforated casing at 10,100-10 ft., for an initial production of 422 bbl. per day flowing through a ¼-in. choke. Tubing pressure was 1,650 lb. The sand section was logged about normal with the discovery well. The area is due to receive an active drilling program as locations for several wells have been made by Humble, while Atlantic Refining Co., Texas Co., and Lisbon-Iberia Oil Co., are drilling or planning to start development in the near future. The latter operation was taken from the Harbor Oil Co.

Lake Chicot Discovery Ready for Test

Amerada Petroleum Corp. 1 State, a prospective pool opener located on the Lake Chicot prospect, St. Martin Parish, is being prepared for a production test. Total depth of the hole is 9,995 ft., and 7-in. casing is being cemented preparatory to testing a series of sands which showed possible production on an electrical survey. Seven sands, all of which carried oil or gas were logged by an electrical survey at intervals from 7,719-9,394 ft. Details as to where these sands were logged were published in the previous issue of The Oil and Gas Journal. The well is in 31-11s-10e, and is being drilled jointly with the Phillips Petroleum Co.

Development on Pine Prairie Dome

The Pine Prairie dome, Evangeline Parish, on which deep-sand production was opened on the east flank this year, received an interesting location as Texas Co. announced location for 1-B Louisiana Danois Land & Stone Co., approximately 2 miles west of present production in 35-3s-1w. On the east flank, E. J. Nichols 1 J. Reed, southwest of production, is drilling below 9,000 ft., after the 8,000-ft. sand was found to have faulted out. This condition was found to exist to the north by Pan American 1 Guillory, which was recently plugged back and sidetracked after drilling to a depth below 9,000 ft. In the meantime, Gulf 1 Shatzkin, an offset to production is being completed after the regular pay was found at 8,097-8,150 ft.

Third Westwego Well Near Completion

The new Westwego field, Jefferson Davis Parish, was due to receive its third producer as Stanolind 1 Weigand in 3-13s-23e, is bottomed at 9,222 ft., and casing is expected to be cemented for a production test after an electrical survey showed the sand section from 8,942-9,007 ft., with the top of the oil sand at 8,965 ft. Correlated with the company's 1 Pitre, the well is 7 ft. structurally lower.

Unknown Pass Discovery Showing Water

W. T. Buron 2 L. & N. Railroad, completed in June as the discovery well of the Unknown Pass field, Orleans Parish, is showing considerable salt water and may be recompleted. On a recent gage the well flowed 22 bbl. of net oil and 85 per cent salt water through ⅞-in. choke. Working pressure ranged from 425 to 500 lb. This well blew out from a total depth of 9,888 ft. and was completed through the drill stem, which became stuck due to excessive pressures. In the same area, the operator's 1 State is bottomed at 9,654 ft., where 5-in. casing was cemented. It is assumed that casing was cemented for testing, although details as to what sands have been logged were not available.

LOUISIANA GULF COAST COMPLETIONS

Wildcats

Allen Parish: Frank Campbell 1 Bowles, dry, T.D. 7,793 ft.
W. T. Buron 1 Calcasieu National Bank, dry, T.D. 10,920 ft.
Rapides Parish: M. H. Marr 1 Lee Lumber Co., dry, T.D. 6,110 ft.
St. Landry Parish: Bartle-Brewster 1 Richard, dry, T.D. 9,010 ft.

Fields

Barataria, Jefferson Parish: California 14-C Fleming, 179 bbl., ⅛-in. choke, T.D. 7,658 ft.
Bayou Choctaw, Iberville Parish: Texas 1 Levy, dry, T.D. 10,038 ft.
Golden Meadows, La Fourche Parish: Texas 11 La Terre Co., Inc., 454 bbl., ⅞-in. choke, perf. casing 10,365-81 ft., T.D. 10,460 ft.
Lafitte, Jefferson Parish: Texas 19 L.L.&E., 577 bbl., ¼-in. choke, perf. casing 8,060-8,110 ft., T.D. 8,375 ft.
Quarantine, Plaquemines Parish: Gulf 6-A Plaquemines Land Co., 444 bbl., ⅞-in. choke, perf. casing 8,516-22 ft., T.D. 8,620 ft.
St. Gabriel, Iberville Parish: George Echols 2-B Gueymard, 255 bbl., ⅛-in. choke, perf. casing 8,630-46 ft., T.D. 8,650 ft.
Sweet Lake, Cameron Parish: Stanolind 26 Cameron Parish School Board, 317 bbl., ¼-in. choke, perf. casing 9,384-9,414 ft., T.D. 10,061 ft.
Venice, Plaquemines Parish: Tide Water 12 Buras Levee District, 216 bbl., ⅛-in. choke, perf. casing 10,105-10,150 ft., T.D. 10,542 ft.
Ville Platte, Evangeline Parish: Continental 1 fee, 270 bbl., 12/64-in. choke, perf. casing 9,908-30 ft., T.D. 10,202 ft.
Continental 1 Adam Tate, 63 bbl., 10/64-in. choke, T.D. 10,089 ft., P.B. 9,926 ft.
Gulf 3 Vidrine, 504 bbl., ⅞-in. choke, perf. casing 10,084-10,124 ft., T.D. 10,128 ft.
West Cote Blanche, St. Mary Parish: Texas 9 State, 279 bbl., 10/64-in. choke, perf. casing 8,922-70 ft., T.D. 9,109 ft.
Woodlawn, Jefferson Davis Parish: J. A. McDaniel 1 Foreman, dry, T.D. 8,205 ft.

Illinois Fields

(Continued from Page 76)

Wabash County

Allendale: Adams Corner O. & G. 1 Adams, NE NE NW 16-1n-12w, pumped 360 bbl., 3,000 gal. acid, McClosky 2,278-92 ft., T.D. 2,292 ft.
Snowden & McSweeney 1 Armstrong, SW SW SW 9-1n-12w, pumped 70 bbl., 2,000 gal. acid, reacidized 4,000 gal., McClosky 2,273-78 ft., T.D. 2,292 ft.
Joe Young 11 Stillwell, NE SW NE SE 1-1n-12w, dry at 1,690 ft., junked hole.
Maud: Magnolia 1 Alka, NE SE SW 34-1s-13w, pumped 35 bbl. oil and 52 bbl. water, perf. 2,649-52 ft., 5,000 gal. acid, perf. 2,651-53 ft., 5,000 gal. acid, reacid 1,000 gal., reacid 1,000 gal., Rosiclare 2,624 ft., T.D. 2,657 ft.
Mt. Carmel: Olds & McNeal 3 Riverside Park, SE NE SW 21-1s-12w, pumped 100 bbl., 35-qt. shot 1,983-94 ft., Cypress sand 1,980-94 ft., T.D. 1,994 ft.
Olds & McNeal 2 Riverside Park, SE NE SW 21-1s-12w, pumped 70 bbl., 35-qt. shot 1,447-87 ft., Biehl sand 1,442-82 ft., T.D. 1,487 ft.
Lacey 1 Friend, Sublot 1, Lot 38, 21-1s-12w, pumped 20 bbl. oil and 80 bbl. water, 5-qt. shot 1,480-90 ft., Biehl 1,478-90 ft., T.D. 1,490 ft.
Hayes Drlg. 3 Cotner, SE SW NE NW 21-1s-12w, pumped 35 bbl., 70-qt. shot 1,454-87 ft., Biehl 1,450-76 ft., T.D. 1,487 ft.
First Nat. Pet. Trust 1 Guard, NW NW SE 21-1s-12w, pumped 112 bbl., 40-qt. shot 1,984-95 ft., Cypress 1,981 ft., T.D. 1,995 ft.
Smith 1 Churchill, SE SW NE 21-1s-12w, location abandoned.

Washington County

Irvington: Powell & Risk 4 Holle, NW NE NW 15-1s-12w, pumped 30 bbl. oil and 35 bbl. water, 5-qt. shot 1,528-32 ft., Benoist 1,525 ft., T.D. 1,532 ft.

Wayne County

Boyleston: Watkins & Weinert 1-B Bright, N½ NE NE 2-2s-7e, flowed 440 bbl., 2,000 gal. acid, McClosky 3,313-22 ft., T.D. 3,334 ft.
Goldengate: New Penn Dev. 2 Wagner, E½ NW SE 30-2s-9e, pumped 150 bbl., 3,000 gal. acid, McClosky 3,341-49 ft., Rosiclare 3,318-29 ft., saturated, T.D. 3,365 ft., P.B. 3,335 ft.
Johnsonville: Yingling 1 Scudamore, E½ SW NE 28-1n-6e, flowed 2,326 bbl., McClosky 3,110-15 ft., 3,120-25 ft., T.D. 3,150 ft.
Gulf 1 Rosa, N½ NW SW 34-1n-6e, flowed 1,588 bbl. in 21 hr., 5,000 gal. acid, McClosky 3,100 ft., T.D. 3,147 ft.
Olson Drlg. 1 Porter, E½ SW SE 36-1n-6e, flowed 429 bbl. in 10 hr., 1,500 gal. acid, McClosky 3,200-04 ft., T.D. 3,286 ft.
South Clay City: Ray Martin 1 Riggs, E½ NE SW 26-2n-8e, dry at 387 ft.

White County

East Calvin: McBride 1 Crawford, SE SE NE 32-3s-14w, pumped 247 bbl., 20-qt. shot 2,836-56 ft., Aux Vases 2,835 ft., T.D. 2,858 ft.
Evarts 1 Metcalf, NW SE SE 16-4s-14w, location abandoned.
Mabee Drlg. 1 Hon B, NE SE SW 9-4s-14w, pumped 85 bbl., 30-qt. shot 2,223-35 ft., Tar Springs 2,212 ft., T.D. 2,236 ft.
Arrow Drlg. 1 Hon E, SE SW NE 32-3s-14w, dry at 2,939 ft., Menard 2,147 ft., Tar Springs sand 2,360 ft., Glen Dean 2,419 ft., Barlow 2,635 ft., Cypress sand 2,663 ft., Benoist 2,792 ft., Renault 2,846 ft., Aux Vases 2,874 ft., Aux Vases sand 2,908 ft.
Maunie North: Magnolia 1 Roser, NW NE NE 25-5s-10e, pumped 112 bbl. oil and 70 bbl. water, perf. 3,023-28 ft., 2,000 gal. acid, reacidized 2,000 gal., Rosiclare 3,005 ft., saturation 3,022-28 ft., T.D. 3,122 ft., P.B. 3,092 ft.
Mill Shoals: Hudson-Hess 1 Poorman, SE SW NE 30-3s-8e, flowed 414 bbl., 55-qt. shot 3,208-27 ft., Aux Vases 3,186 ft., T.D. 3,227 ft.
Texas 10 A. J. Poorman, E½ SW SW 19-3s-8e, swabbed 192 bbl., 20-qt. shot 3,230-44 ft., Aux Vases 3,114 ft., T.D. 3,244 ft.
North New Harmony: Compton & Fotiades 3 Gray, NW SW SW 21-4s-14w, pumped 40 bbl. oil and 25 bbl. water, 40-qt. shot 2,858-68 ft., 4,000 gal. acid, McClosky 2,936-90 ft., 2,994-3,004 ft., Aux Vases 2,858-68 ft., T.D. 3,024 ft.
Superior 24 E. M. Fitten, NE SW NW 23-4s-14w, pumped 90 bbl. oil and 8 bbl. water, 40-qt. shot 2,652-64 ft., perf. 2,587-2,604 ft., 2,235-45 ft., Tar Springs 2,336-47 ft., saturated, Cypress sand 2,589-2,624 ft., 2,646-72 ft., T.D. 2,855 ft.
Sun and Ellis 13 Jacobs A, NW SE NE 28-4s-14w, pumped 35 bbl., 80-qt. shot 2,826-56 ft., 400-qt. shot 2,829-58 ft., Aux Vases 2,824-56 ft., T.D. 2,858 ft.
Sun 1 Greathouse B, NE NE SE 32-4s-14w, pumped 28 bbl. oil and 20 bbl. water, 50-qt. shot 2,582-2,600 ft., Cypress sand 2,582-2,600 ft., T.D. 2,600 ft.
Superior 19 Fitten A, SE NE NE 32-4s-14w, pumped 95 bbl., 100-qt. shot 2,832-56 ft., perf. 2,725-37 ft., 2,584-2,604 ft., Cypress 2,587-2,638 ft., show oil, Benoist 2,727-37 ft., saturated, Aux Vases 2,834-56 ft., saturated, T.D. 2,930 ft.
Superior 12 Given, SE SW NW 34-4s-14w, pumped 461 bbl., 140-qt. shot 2,804-40 ft., 40-qt. shot 2,707-19 ft., 40-qt. shot 2,572-84 ft., Cypress sand 2,558-2,609 ft., Benoist 2,697-2,748 ft., Aux Vases 2,810-36 ft., T.D. 2,840 ft.
Rising Sun: Cherry & Kidd 4 F. Karch, NW SE NW 24-6s-10e, pumped 50 bbl., 20-qt. shot 2,006-20 ft., T.D. 2,990 ft., P.B. 2,020 ft.
Skelly 1 Karch, SE SE SE 13-6s-10e, dry at 2,893 ft., P.B. 2,073 ft., Menard 2,093 ft., Vienna 2,230 ft., Tar Springs 2,260 ft., Glen Dean 2,339 ft., Golconda 2,460 ft., Barlow 2,586 ft., Cypress sand 2,599 ft., Benoist 2,747 ft., Paint Creek 2,813 ft., Aux Vases sand 2,881 ft.
Roland: Tide Water 6 Baker, NE NE NW 14-7s-8e, pumped 60 bbl., perf. 2,156-64 ft., Waltersburg sand 2,137 ft., T.D. 2,175 ft.
Tide Water 4 Baker, NW NE NW 14-7s-8e, pumped 70 bbl. in 14 hr., 40-qt. shot 2,890-2,909 ft., Aux Vases sand 2,875 ft., T.D. 2,911 ft.
Carter 1 W. P. McGill, NE NW NW 14-7s-8e, flowed 396 bbl., 40-qt. shot 2,887-2,900 ft., perf. 2,146-56 ft., Aux Vases 2,884 ft., T.D. 2,911 ft.
Kingwood and Sinclair 3 McKenzie, NW NW SW 12-7s-8e, pumped 70 bbl. oil and 10 bbl. water, 2-qt. shot 2,730-36 ft., 6-qt. shot 2,728-36 ft., 8-qt. shot 2,727-35 ft., 11-qt. shot 2,727-35 ft., 8-qt. shot 2,736-38 ft., 19-qt. shot 2,727-35 ft., Benoist 2,730 ft., T.D. 2,751 ft.
Carter 4 Hamilton, NW SW SE 11-7s-8e, flowed 425 bbl., 30-qt. shot 2,180-90 ft., Waltersburg sand 2,177 ft., T.D. 2,196 ft.
Carter 3 W. A. Hamilton, SE SW NE 11-7s-8e, flowed 251 bbl., 20-qt. shot 2,169-73 ft., Waltersburg 2,163 ft., T.D. 2,178 ft.
Carter 2 W. A. Hamilton, SW SE NE 11-7s-8e, flowed 251 bbl., 60-qt. shot 2,882-2,901 ft., perf. 2,177-78 ft., 2,163-78 ft., 2,168-73 ft., Aux Vases 2,884 ft., Waltersburg 2,165 ft., T.D. 2,906 ft.
Carter 4 Fuller, NE SE NW 11-7s-8e, pumped 556 bbl., 30-qt. shot 2,180-90 ft., Waltersburg 2,173-94 ft., T.D. 2,194 ft.
Tristate Crude 1 Hamilton, E½ E½ SW 14-7s-8e, dry at 2,923 ft., Menard 2,069 ft., Waltersburg 2,177 ft., Tar Springs sand 2,251 ft., Glen Dean 2,345 ft., Barlow 2,576 ft., Cypress sand 2,593 ft., Paint Creek 2,710 ft., Benoist 2,754 ft., Renault 2,803 ft., Aux Vases 2,883 ft.
West Irons: Tide Water 5 Shain, SE NE SE 23-6s-8e, pumped 134 bbl., Hardinsburg 2,509-25 ft., T.D. 2,526 ft.

Texas Gulf Coast

(Continued from Page 75)

a prospective new sand discovery for the northwest flank of the old Hull field has been completed for an initial production of 410 bbl. of 37 gravity oil per day flowing through a 11/64-in. choke. While details as to where casing was perforated were not available completion was probably made at 6,400 or 6,500 ft. where an electrical survey showed a thick sand section. The well is located several hundred feet northwest of production and opens an important discovery for this old dome.

The opening of the first oil production in the Texana gas-distillate field, Jackson County, was marred to some extent by the intrusion of salt water in Sinclair Prairie 1 Volkner, 3,000 ft. northwest of the discovery well. On a potential gage, the well flowed 178 bbl. of oil and 174 bbl. of brackish water per day through a ¼-in. choke. Tubing pressure was 320 lb., and shut-in casing pressure 160 lb. Production is from the Marginulina-Frio sand through perforated casing at 5,102-06 ft.

The lower part of the Gulf Coast sector gained two wildcat operations. In Fort Bend County, Providence Oil Co. and Federal Royalty Co. staked location for 1 A. Hrusek, a Vicksburg test in the Gail Borden Survey, while in Brazoria County, Skelly Oil Co. is moving in material for 1 H. Viemann, a projected basal Frio test in the J. White Survey.

TEXAS GULF COAST COMPLETIONS

Wildcats

Jackson County: Gulfboard 1 Zapalac, dry, T.D. 7,008 ft.
W. S. Boyle 1 Sartain, dry, T.D. 5,020 ft.

Fields

Anahuac, Chambers County: Humble 37 Johnson, 209 bbl., ¼-in. choke, T.D. 7,148 ft., P.B. 7,126 ft.
Dyersdale, Harris County: Jack Frazier 1 E. A. Call, dry, T.D. 4,192 ft.
Jack Frazier 8 Griffith, 20 bbl., ⅛-in. choke, T.D. 3,511 ft.
Jack Frazier 1 Kenedy, 143 bbl., ¼-in. choke, T.D. 4,080 ft.
Lolita, Jackson County: Circle Oil Co. 1 R. T. Walker, 69 bbl., 3/32-in. choke, T.D. 5,942 ft.
Cox & Hamon 1 Mitchell, 29 bbl., ⅛-in. choke, T.D. 6,000 ft., P.B., T.D. 5,300 ft.
Humble 18-A L. Ranch, 600 bbl., ¼-in. choke, top sand 5,271 ft., T.D. 5,287 ft.
Skelly 1-B Mitchell, 96 bbl., 7/64-in. choke, perf. casing 5,940-43 ft., T.D. 5,945 ft.
Lovells Lake, Jefferson County: Humble 22 Jefferson Land Co., 89 bbl., ⅛-in. choke, perf. casing 7,722-23 ft., T.D. 7,808 ft.
North Markham, Matagorda County: Ohio 8 Carlson, 177 bbl., ⅛-in. choke, perf. casing 7,714-24 ft., T.D. 8,091 ft.
Sun 3 Braman, 87 bbl., ¼-in. choke, T.D. 8,101 ft., P.B., T.D. 8,083 ft.
Red Fish Reef field, Chambers County: Humble 25-A-247 State, 163 bbl., ⅛-in. choke, T.D. 8,715 ft.
Texana, Jackson County: Sinclair 1 Volkner, 178 bbl. oil and 174 bbl. brackish water ¼-in. choke, perf. casing 5,102-06 ft., T.D. 5,780 ft.
West Ganado, Jackson County: Pure 1 D. Hammons, 103 bbl., ⅛-in. choke, perf. casing 4,756-73 ft., T.D. 6,350 ft.
Pure 1 Wiese, 138 bbl., ⅛-in. choke, perf. casing 6,000-08 ft., T.D. 6,361 ft.
West Ranch, Jackson County: Magnolia 180-A West ranch, 241 bbl., ⅛-in. choke, T.D. 5,102 ft., P.B. T.D. 5,101 ft.
Magnolia 184-A West ranch, 133 bbl., 9/64-in. choke, T.D. 5,708 ft., P.B., T.D. 5,110 ft.
Magnolia 185-A West ranch, 178 bbl., 5/32-in. choke, T.D. 5,548 ft., P.B., T.D. 5,547 ft.
Magnolia 187-A West ranch, 125,000,000 cu. ft. gas, open tubing, perf. casing 4,993-5,020 ft., T.D. 5,040 ft.
Magnolia 188-A West ranch, 80,000,000 cu. ft. gas, open tubing, perf. casing 4,990-5,050 ft., T.D. 5,055 ft.

TEXAS GULF COAST DRILLING REPORT

Brazoria County: Skelly 1 H. Viemann, J. White Sur., moving in material, first report.
Sterling Oil & Ref. Co. 1 Shanks, J. Brown Sur., drilling shale 5,193 ft.
Chambers County: Sun 5 Jackson, Oyster Bayou field, top sand 8,242 ft., T.D. 8,290 ft., W.O.
Fort Bend County: W. L. Goldston 1 Coyle, H.&T.C. Sur. 39, drilling shale 3,975 ft.
Providence Oil Co. and Federal Royalty Co. 1 A. Hrusek, Gail Borden Sur., moving in material, first report.
Harris County: Ralph Johnston 1 H. C. Cockburn, J. Jeffries Sur., 10¾-in. casing 1,100 ft., drilling plug.
Hardin County: Republic Production 1 Gus Hooks, outpost to West Silsbee field, 15-minute drill-stem test 6,867-74 ft., recovered 30 ft. oil and 510 ft. salt water.
Jefferson County: British American 2-A State, Sabine Pass field, T.D. 6,091 ft., making drill-stem test.
Liberty County: Glenn McCarthy 1 Pickett, W. S. Craig Sur., top Discorbis 5,829 ft., Heterostegina 6,107 ft., drilling shale 7,882 ft.
Polk County: Pan American 1 Texas Long Leaf Lbr. Co., A. Viesca Sur., top Eponides Yeguaensis 4,435 ft., top Ceratabulimina 5,399 ft., coring shale 7,031 ft.
Tyler County: Navarro 1 Reid, E. Sanderson Sur., top Cockfield 4,365-69 ft., T.D. 4,443 ft., reaming.
Wharton County: Wynn Crosby 1 Poole, A. J. Frey Sur., drilling shale 3,520 ft.
Jackson County: Rowan & Hope 1 B. W. Milby, J. Williams Sur., drilling shale 5,260 ft.

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Johns-Manville 420 ROTARY LINING

Michigan Fields

(Continued from Page 80)

nious, SW SW SE 3-20n-4e, temporarily abandoned, T.D. 2,655 ft.
Lincoln Township: Socony-Vacuum Oil Co. 1 Danckert, NE SE NW 9-18n-4e, wildcat, dry, T.D. 4,275 ft.

Bay County

Monitor Township: L. C. MacGregor 1 Staudacher, NW SW NW 2-14n-4e, pumping 55 bbl., acid, T.D. 2,871 ft.

Clare County

Grant Township: Freeman Oil Co. 1 Sutton, C E½ SW SE 22-17n-4w, wildcat, dry, T.D. 3,852 ft.
Winterfield Township: Freeman Oil Co. 1 Sample, C W½ SW SE 32-20n-6w, 75 bbl., acid, T.D. 3,120 ft.

Genesee County

Clayton Township: Lewis Burr 1 Burlison, NW SE NE 27-7n-5e, temporarily abandoned, T.D. 150 ft.

Huron County

Rubicon Township: Wallace Markle 1 Purdy, SW SE SE 34-17n-15e, wildcat, dry, T.D. 2,403 ft.

Isabella County

Denver Township: Michigan Devonian Petroleum Co. 1 Wonsey, SE SE SE 33-15n-3w, 70 bbl., acid, T.D. 3,622 ft.

Kent County

Cascade Township: Jetter & DeKrafft 1 Daukszа, SE SE NE 15-6n-10w, wildcat, dry, T.D. 2,648 ft.
Walker Township: Voorhees Drilling Co. 1 Hesselink, NW SW SW 7-6n-12w, dry, T.D. 2,421 ft.

Lenawee County

Deerfield Township: Otto H. Powell 1 Iott, SW SE NW 25-7s-5e, wildcat, temporarily abandoned, T.D. 2,304 ft.

Montmorency County

Avery Township: George Stevens 1 Crank, SW NE NW 15-30n-3e, wildcat, temporarily abandoned, T.D. 989 ft.

Osceola County

Lincoln Township: Weber Oil Co. 2 Ritter, C N½ NW SW 30-18n-10w, 5,280 bbl., T.D. 3,605 ft.
Weber Oil Co. 1 Wilson, C S½ NE SE 30-18n-10w, 5,088 bbl., T.D. 3,572 ft.
Weber Oil Co. 1 Ritter, C N½ NE SW 30-18n-10w, 1,440 bbl., T.D. 3,593 ft.
Weber Oil Co. 2 Fatum, C N½ SW SE 30-18n-10w, 8,400 bbl., T.D. 3,608 ft.
Weber Oil Co. 1 Baderschneider, SE SW NE 30-18n-10w, 9,600 bbl., T.D. 3,585 ft.
Ohio Oil Co. 1 Stedman, C S½ NW NW 29-18n-10w, 7,800 bbl., T.D. 3,584 ft.
Gulf Refining Co. 1 Campbell, C S½ SW SW 19-18n-10w, 3,360 bbl., acid, T.D. 3,627½ ft.

Ottawa County

Tallmadge Township: Welsh Oil Co. 1 Quist, SE NW SW 23-7n-13w, location abandoned.

Van Buren County

Bloomingdale Township: Lang & Lewis 1 Munn, NW SW NE 11-1s-14w, pumping 125 bbl. and salt water, acid, T.D. 1,285 ft.
Columbia Township: Lang & Lewis 1 Harvat, NE SE NE 12-1s-15w, dry, T.D. 1,212 ft.

Canadian Fields

(Continued from Page 80)

ing and testing, showing 11 bbl. hourly.

New Tests Starting

North Turner Valley: Miracle Royalties 2, LSD 6, 4-21-3w5, working on derrick.
Foothills Oil & Gas 10, LSD 2, 4-21-3w5, spudded and below 378 ft.
Royalite Oil 62, LSD 3, 22-20-3w5, working on derrick.
West Central section: Gem Royalties 1, LSD 4, 36-19-3w5, spudding.
Anglo-Canadian Oils 11, LSD 5, 25-19-3w5, spudded and below 770 ft.
South West Petroleum 6, LSD 5, 8-19-2w5, spudded and below 527 ft.
Royalite Oil 63, LSD 8-9, 7-19-2w5, location.

Outside Fields

Grease Creek: Grease Creek-Northwest Co. 2, LSD 7, 13-29-7w5, location for joint test by Grease Creek Petroleums and Northwest Co., subsidiary of Imperial Oil. Location is immediately north of Grease Creek-Northwest 1, LSD 2, abandoned last year at 7,020 ft., due to drilling difficulties.
Willow Creek: Mar Jon-Oilfields Development 1, LSD 7, 7-13-2w5, below 1,850 ft.
Lethbridge: Lethbridge Petroleums 1, LSD 12, 11-8-22w4, T.D. 4,168 ft., Madison at 4,145 ft., drilling out plug after recementing upper water.
Blood Indian Reserve: Northwest-Treaty 1, LSD 4, 17-8-23w4, T.D. 6,074 ft., Madison at 5,960 ft., water in lime, perforating casing for test of Sun burst.
Steveville: Standard-McDougall Segur 1, LSD 3, 11-20-12w4, below 1,100 ft.
Standard 2 Princess, LSD 3, 13-20-12w4, testing for limestone production.
Vermilion: Franco-Hamers 3, LSD 8, 30-50-5w4, cemented at 1,835 ft. after coring 9 ft. of oil sand, blew into production and is flowing by heads, exceeds 100 bbl. daily.
Western-Battleview 3, LSD 4, 29-48-5w4, spudded.
Franco-Hamers 4, LSD 15, 19-50-5w4, below 1,100 ft.
Franco-Vermilion 10, LSD 13, 36-49-6w4, location.
Alberta-Southern 1, LSD 15, 20-50-5w4, standing at 1,672 ft.
Vermilalta-Frankview 2, LSD 4, 20-50-5w4, pumping, fair producer.
Conestoga 1, LSD 2, 30-50-5w5, T.D. 1,850 ft., fair pumper.
Lacombe: Lacombe-Red Deer Gas & Oil Co. 1, derrick up and equipment on ground for gas test.
Magrath: H. W. McIntyre 1, McIntyre ranch, encountered small gas flow, deepening.

Alberta Petroleum Regulations

Under new amendments to the Alberta petroleum regulations, leases of Alberta crown lands must start drilling within a year. The new rules, which apply to provincial and school lands, also

provide for increasing the maximum area of an individual lease from 2,560 to 9,600 acres.

Shell Co. May Drill

It is expected that drilling operations will be started by interests associated with the Shell Oil Co. of Canada on acreage held by the Brown-Moyer-Brown group on the Jumping Pound structure west of Calgary. The Shell company opened an Alberta office this spring, and a 3-month program of geophysical work was started in July. The Jumping Pound structure, which is north and west of Turner Valley, has been tested several times; but though no production was secured, geological information obtained by drilling indicated strong possibilities elsewhere in the area.

Gaspe Oil Prospect

Imperial Oil is arranging with the Quebec government for a second test for oil on the Gaspe Peninsula. This area was drilled as early as 1860, and prior to 1900 Canadian Petroleum Co., backed by English capital, put down over 50 wells, securing some oil production. A small refinery was built and a pipe line laid, but fire destroyed the plant and accumulated oil, and later the company went into liquidation. Recent geological investigation by Dr. J. W. Jones indicated the earlier wells had been badly located or drilled to insufficient depth; and in 1939 an Imperial subsidiary, La Compagnie d'Exploration de Gaspe, Limitee, started 1 Mississippi, deep test on York River about 30 miles west of Gaspe town. This test was later abandoned at 5,995 ft. Location has not yet been made for No. 2 test.

Calmont Operations

Operations by Calmont Oils of Calgary for the year ending May 31, 1941, showed a net profit of $46,909.53. The company is now completing the fourth of a program of six joint tests with Northwest Co., Imperial Oil subsidiary, in West Central Turner Valley. The three wells already completed produce approximately 875 bbl. daily. The company also has royalty interests in 12 other Turner Valley producing companies.

LEGAL

Notice of Oil and Gas Lease Sale. Ute Mountain Indians will lease by bid approximately 6000 acres. Bids to be opened September 25, 1941. Information may be secured from Superintendent F. E. McSpadden, Ignacio, Colorado.

LEGAL

Department of the Interior, United States Land Office, Las Cruces, New Mexico. Notice is hereby given that lots 8 and 9, Sec. 5, T. 21 S., R. 37 E., N.M.M., New Mexico, containing 80 acres in the Eunice Field, New Mexico, are offered to the responsible qualified bidder of the highest bonus per acre for lease under section 17 of the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386 at a sale to be held in the United States Land Office, Las Cruces, New Mexico at 10:00 o'clock October 1, 1941. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the mount bid, and file the showing of qualifications to receive a lease, required by section 7 of Circular 1386. The remainder of the bonus bid and the annual rental of $1.00 per acre must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of Sec. 59 of the United States Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Paul A. Roach, Register.

LEGAL

United States Department of the Interior, District Land Office, Las Cruces New Mexico. Notice is hereby given that a lease of the oil and gas deposits in the following described lands is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of Section 17 of the act of February 25, 1920 (41 Stat. 437) as amended, at the royalty rate scale in the lease forms shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office at Las Cruces, New Mexico, at 10:00 A.M. on October 1, 1941: E½ NE¼ Sec. 27, T. 17 S., R. 30 E., N.M.P.M., New Mexico, containing 80 acres in the Jackson Oil and Gas Field. The successful bidder must deposit on the date of sale a certified check on a solvent bank, or cash, of one-fourth of the amount of the bid and file a showing of qualifications to receive the lease, required by Section 7 of Circular 1386. The remaining three-fourths, together with the annual rental in advance at the rate of $1.00 per acre must be paid, and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of Section 59 of the Criminal Code, approved March 4, 1909, prohibiting unlawful combinations or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

MISSISSIPPI AND SOUTHEAST

Small Producer Opens Cary Pool in Sharkey County

By R. MARNE SANFORD

JACKSON, Miss., Sept. 8.—For the second consecutive week the Tinsley field of Mississippi set a new production high. The daily average production for the week ending September 2 was 52,915 bbl. Also setting a new accumulative production high, the figure for that week amounted to 55,636 bbl.

SUMMARY OF COMPLETIONS

	No.	Bbl.	Footage
Oil wells: Tinsley	6	2,488	30,006
Dry holes: Wildcats	1	.....	9,009
Total	7	.....	39,015
Other: Salt-water disposal well	1	.....	2,863

A new purchaser was added to the pool the past week when Searle Petroleum Co., Omaha, Neb., purchased nine tank cars through Allied Pipe Line Corp. in the field.

Possibility of a new outlet facility for the field was seen the past week when Sinclair-Wyoming Oil purchased ground for a new loading rack at Anding, Miss. The date at which work will start toward construction of the rack was not announced.

Discovery Definite in Sharkey County

Definite discovery of Mississippi's third oil field was seen the past week at British American Oil Producing Co. 1-A Houston, 3,160 ft. from south and 1,890 ft. from east lines of the NW cor. 23-11n-7w. The well made several production gages which assured commercial oil output for the discovery. A 2-hour pumping gage netted 6 bbl. of oil and 12 bbl. of water per hour. A full 24-hour pumping gage is scheduled as soon as sufficient storage has been erected. The hole was drilled to a total depth of 4,355 ft. and plugged back to 3,285 ft. where it has been standing for about 2 weeks. Production is from the Chalk topped at 3,270-80 ft. Shows of oil were found from 3,278 to 3,300 ft. where the section was first drilled. The field will be called the Cary pool and will be Mississippi's third commercial oil discovery.

Tinsley Extension Swabs Dry

The once promising ¾-mile southwest extension to the Tinsley field, Ray Drilling Co. 1 Walker, located in SE NW 2-9n-3w, last week still offered a slight chance of commercial production. The well had previously shown for an estimated 500 bbl. daily when drilled in but during the past week the well was swabbed dry and would not flow. Further testing is under way and some kind of a pumping well is expected. The 2½-in. tubing is set at 4,944 ft. with total depth being 4,948 ft. This well is approximately 23 ft. above the water level on the upthrown side of the fault on the top of the Woodruff and about 5 ft. above the water level at its total depth.

MISSISSIPPI COMPLETIONS

Leake County: Wildcat, Sinclair-Wyoming 1 Pearl River, NW SE NW 28-9n-6e, top Wilcox 1,102 ft., Midway 3,050 ft., Eutaw 4,914 ft., Tuscaloosa 5,400 ft., Paluxy 6,345 ft., Glen Rose 7,725 ft., T.D. 9,009 ft. in Glen Rose, dry.

Yazoo County, Tinsley field: Gholson, Hodge & Culbuson 4 Sorrells, SW NW NW 32-10n-2w, Woodruff 4,988-5,090 ft., perf. casing 4,988-5,018 ft., pumped 648 bbl. daily.

E. C. Johnston 4 Brumfield, SW NE 11-10n-3w, Woodruff 4,772-4,811 ft., T.D. 5,212 ft., perf. casing 4,770-80 ft., pumped 350 bbl. daily.

C. H. Lyons 1 Stutts, NW NW 29-10n-2w, Woodruff 4,995-5,051 ft., perf. casing 4,993-5,041 ft., pumped 168 bbl. in 12 hr.

Magnolia 5 Milner, NE NE 7-10n-2w, Woodruff 4,877-4,965 ft., perf. casing 4,877-4,955 ft., pumped 432 bbl. daily.

Amerada 3 Stutts, C S½ SE NE 36-10n-3w, perf. casing 4,940-73 ft., T.D. 4,672 ft., pumped 27 bbl. per hour.

Hassie Hunt 4 Sorrells, SW NE 31-10n-2w, perf. casing 4,985-5,016 ft., pumped 37 bbl. in 14 hr.

Union Oil 1 Stevens, SE NW 12-10n-3w, T.D. 2,863 ft., salt water disposal well.

MISSISSIPPI ACTIVE WILDCATS

Copiah County: Sun 1 J. G. Ainsworth, N½ NW SE 17-9n-7e, rigging up rotary.

Grenada County: Grenada County Drilling & Development 1 Connecticut General, S.D. 3,743 ft.

H. T. Salter et al 1 Carpenter, NE SE 6-21n-7e, drilling 1,710 ft.

Kemper County: D. C. Williams et al 1 McKelvain, SE NE 2-9n-17e, S.D. 2,100 ft.

Lawrence County: Tide Water 1 Denman Lumber, N½ SW 5-5n-11e, setting surface casing 1,030 ft.

Madison County: Sinclair-Wyoming 1 Harris, N½ SE NW 26-10n-5e, drilling 4,808 ft.

Marshall County: W. B. Fly 1 Tucker, NE NE 20-5s-4w, spudded 12 ft., S.D.

Sharkey County: British American 1-A Houston est., NW NE SW 23-11-7w, installed pump, erecting storage, T.D. 4,355 ft., pumped 6 bbl. oil and 12 bbl. water per hour for 2 hr., prep. take 24-hr. test.

Stone County: H. I. Morgan 1 University of Mississippi, C SE 35-3s-10w, set 8⅝-in. casing 2,233 ft., drilling 5,980 ft.

Wilkinson County: Bering Oil 1 Crosby, SW SW 15-4n-2w, derrick.

Yazoo County: Fred Endom 1 State School Land, NE NE NE 16-9-3w, drilling 4,710 ft.

ALABAMA ACTIVE WILDCATS

Clarke County: Union 1 M. M. Waite, C NW 27-8n-1w, drilling 11,164 ft.

Fayette County: J. W. Mills 1 W. C. Musgrove, C NW 10-15s-12w, T.D. 1,495 ft., fresh water, show gas, fishing.

Franklin County: E. O. Heath, Jr., 1 W. O. Hester, SW SW 4-6s-12w, drilling 1,160 ft.

Lauderdale County: G. F. Mercer 1 Patterson, NW SE 8-2s-12w, hole full sulfur water, S.D. 1,611 ft.

Madison County: Mellen & Thompson 1 Alice Baldridge, NE NE NW 8-1s-1e, drilling 630 ft.

Monroe County: Vaughy & Andrade 1 W. S. Moore est., C NW 27-7n-5e, moving in material.

Rocky Mountain Runs

Production estimates for week ended September 6, 1941:

WYOMING	
Salt Creek	10,600
Big Muddy	1,160
Byron	250
Cole Creek	830
Dallas Derby	580
Elk Basin	690
Frannie	2,380
Garland	1,790
Grass Creek	5,590
Hudson	280
La Barge	1,970
Lance Creek	23,270
Lost Soldier	7,480
Mahoney	1,030
Maverick Springs	1,100
Medicine Bow	660
Mule Creek	500
Oregon Basin	8,550
Osage	600
Poison Spider	210
Quealy Dome	470
Rock River	2,600
So. Casper Creek	420
Wertz	4,760
Total Wyoming	78,500
MONTANA	
Kevin-Sunburst	5,190
Cat Creek	450
Cut Bank	13,510
Dry Creek	510
Pondera	670
Total Montana	20,400
COLORADO	
Iles Dome	1,530
Fort Collins and Wellington	350
Wilson Creek	1,150
Moffat	340
Price	240
Hiawatha	680
Total Colorado	5,040
NEW MEXICO	
Arrowhead	4,050
Cooper	2,850
Eaves	810
Eunice	18,550
Halfway	330
Hardy	2,370
Hobbs	10,130
Jal	370
Langlie	4,140
Lynch	430
Lynn	970
Mattix	4,030
Monument	19,770
Penrose	3,630
Rhoades	450
Skelly	1,590
South Eunice	2,750
South Lovington	1,440
Vacuum	13,350
West Eunice	460
Artesia-Maljamar	20,490
Rattlesnake	280
Total New Mexico	113,840

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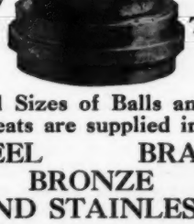

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SOUTHWEST TEXAS

Oil Possibilities of Agua Dulce Greatly Enlarged

By F. L. SINGLETON

THE entire west flank of the Agua Dulce-Stratton field was thrown open for future exploration as oil and gas-distillate production was opened by two wells approximately 2 miles from production. Main interest at the close of the week was centered on Sam E. Wilson, Jr., et al 1 Rivers on the extreme southwest flank of the Stratton area which is drilling in shale below 5,840 ft., following a 16-minute drill-stem test at 5,728-79 ft., which tested 80 lb. working pressure and recovered 580 ft. of 42.8-gravity oil.

The showing of this well followed the completion of the same operator's 1 Union Central Life Insurance Co., located on the extreme northwest flank which flowed 45,000,000 cu. ft. of gas and 30 bbl. of distillate from the upper sand at 6,658-6,726 ft., and 32,000,000 cu. ft. of gas and 10 bbl. of distillate from the lower sand at 6,734-6,823 ft.

Development of this structure has been heretofore confined to the northeast, southeast and south flanks where important production has been developed from a series of downdip sands flanking the top of the structure which had up until the past 2 years produced only gas-distillate. The showing of the later wells prove that the same structural conditions that exist on the east flank will be found on the west flank, and exploration in this area is expected to be increased considerably.

On the north flank of the Agua Dulce area Sam E. Wilson, Jr., was preparing to test 1 First Trust Stock Land Bank of Chicago which seems assured of opening a new producing area as the result of a favorable drill-stem test made 2 weeks ago. Total depth of the hole is 6,875 ft., and the well is expected to be completed in sand at 5,560-89 ft., where a drill-stem test recovered pipe line.

Nueces County gained an important wildcat test as Premont Petroleum Co. et al moved in material for 1 L. M. Noakes in the G. Farias grant which is scheduled to be drilled to a depth of 7,000 ft.

Pettus Trend Gets Two Tests

The Pettus sand trend extending through the east half of Duval County received two new tests. Three miles north of Rosita in the A. Cantu Survey, J. B. Blanchard moved in material for 1 Carrilo, a 4,700-ft. test, while 4 miles southeast of the Realitos townsite, Henderson Coquat staked location for 2 Ysidro Garcia, a 6,300-ft. test in the J. M. Ynojosa grant.

Carrizo Test in Live Oak Proves Disappointing

In Live Oak County, Edwin M. Jones 3-B George West, southwest of the town of George West, has been abandoned after plugging back and testing salt water at 6,985-7,025 ft. This well seemed assured of opening Carrizo production several weeks ago at 8,920-44 ft., but production soon declined as the result of salt water intrusion. This is the second deep test to be drilled in the area and in view of the favorable showings logged, additional development is expected to be done in the near future.

Frio-Vicksburg Discovery in Starr County

A new Frio-Vicksburg sand discovery was indicated for Starr County by the showing of Sun 1 Yturria Land & Livestock Co., in the Ygnacio Trevino Porcion 100. Sand showing oil was cored at intervals from 4,227-34 ft., and on a 20-minute drill-stem test the well showed 335 lb. working pressure and recovered 530 ft. of 36-gravity oil and 105 ft. of salt water. The well is situated on strike with other Frio sand producing areas, being located 7 miles southeast of the prolific Rincon field, and about the same distance north of the Sam Fordyce field.

McAllen Gas-Distillate Production Extended

Gas-distillate production in the McAllen field, Hidalgo County, was extended 5,100 ft. southwest as W. R. Davis, Inc. 1 Arizona-Texas Citrus Co., flowed 21,500,000 cu. ft. of gas and 75 bbl. of water-white distillate per day through open tubing. Total depth of the well is 8,513 ft., and details as to where the casing was perforated were not available as the well was drilled tight. An electrical survey showed several sands, and these have been tested during the past 2 weeks.

Pan American 1 Bruges, 1 mile west of the Willamar field, Willacy County, is preparing to test in a higher sand following a drill-stem test in the main pay at 7,945-54 ft., which tested salt water and a small amount of oil. Preparations were being made to test at 7,708-32 ft.

SUMMARY OF COMPLETIONS

Lower Gulf Coast District

	No.	Bbl.	Footage
Oil wells: Fields	18	2,113	108,881
Gas wells: Fields	3	.....	20,998
Dry holes: Fields	6	.....	35,416
Wildcats	3	.....	16,490
Total	30	.....	181,785

Laredo District

	No.	Bbl.	Footage
Oil wells: Fields	8	788	24,764
Gas wells: Fields	1	.....	1,082
Dry holes: Fields	9	.....	21,783
Wildcats	5	.....	13,140
Total	23	.....	60,769

South Central Texas District

	No.	Bbl.	Footage
Oil wells: Fields	1	2	460
Dry holes: Wildcats	3	.....	4,873
Total	4	.....	5,333

SOUTHWEST TEXAS COMPLETIONS

LOWER GULF COAST

Wildcats

Bee County: Heard & Heyser 1 Huddleston, dry, T.D. 4,510 ft.
Row & McBride 1 O'Connor, dry, T.D. 4,965 ft.
Calhoun County: L. A. Johnson 1 McKamey, dry, T.D. 7,015 ft.

Fields

Agua Dulce, Nueces County: Lonnie Glasscock 1 Kansas City Life Ins. Co., dry, T.D. 7,040 ft.
Kilgore Developers 2 Schule, dry, T.D. 5,028 ft.
S. E. W. Oil Corp. 1 E. M. Wilson, dry, T.D. 7,246 ft.
Texon Royalty Co. 6 Driscoll, 160 bbl., ⅛-in. choke, perf. casing 6,978-88 ft., T.D. 7,006 ft.
Ben Bolt, Jim Wells County: H. H. Howell 1-B Lindsay & Reed, dry, T.D. 5,247 ft.
H. H. Howell 3 Whalley, 290 bbl., ⅞-in. choke, broken sand 5,222-52 ft., T.D. 2,252 ft.
Bloomington, Victoria County: Gulf 2 Noble, 43 bbl., 3/32-in. choke, perf. casing 5,859½-69½ ft., T.D. 5,870 ft.
Boyle, Starr County: Fidelity Oil & Royalty 4-D Carruth, dry, T.D. 3,605 ft.
East Alice, Jim Wells County, 32 bbl., 3/32-in. choke, perf. casing 5,330-33 ft., T.D. 5,370 ft.
East Flour Bluff, Nueces County: Humble 1-C Ritter, 146 bbl., 7/64-in. choke, T.D. 6,783 ft.
Humble 1-K State, 86 bbl., 7/64-in. choke, perf. casing 6,753-58 ft., T.D. 8,694 ft.
Fagan, Refugio County: Barnsdall 12 Marberry, dry, T.D. 7,340 ft.
Clara Driscoll, Nueces County: 106 bbl., ⅛-in. choke, perf. casing 5,438-52 ft., T.D. 5,452 ft.
East Premont, Jim Wells County: 219 bbl., ⅛-in. choke, perf. casing 6,574-76 ft., T.D. 6,084 ft.
Sun 1 Miller, 144 bbl., 9/64-in. choke, perf. casing 5,201-05 ft., T.D. 5,326 ft.
Minnie Bock, Nueces County: Graham 3 Dugger, 57 bbl. oil and 80 bbl. salt water, ⅛-in. choke, perf. casing 3,806-10 ft., T.D. 3,841 ft.
Phillips 1 Gandy, 96 bbl., ¼-in. choke, perf. casing 5,445-48 ft., T.D. 5,900 ft.
Odem, San Patricio County: Seaboard 1 Lane, 150 bbl., ⅛-in. choke, perf. casing 5,323-26 ft., T.D. 5,460 ft.
Plymouth, San Patricio County: Plymouth 119-C Welder, 135 bbl., 7/64-in. choke, perf. casing 6,139-47 ft., T.D. 6,147 ft.
Refugio, Refugio County: Sunray 1 Mitchell, dry, T.D. 7,250 ft.
Richard King, Nueces County: 62 bbl., 5/32-in. choke, perf. casing 5,382-87 ft., T.D. 5,621 ft.
Southern Minerals 13 Walker, 86 bbl., ¼-in. choke, perf. casing 5,630-35 ft., T.D. 5,640 ft.
Stratton, Nueces County: The Chicago Corp. 16 Wardner, 133 bbl., ⅛-in. choke, perf. casing 6,386-6,404 ft., T.D. 6,615 ft.
The Chicago Corp. 20 Wardner, 65,000,000 cu. ft. gas and 90 bbl. distillate from upper sand, 20,000,000 cu. ft. gas and 35 bbl. distillate from lower sand, perf. casing 6,328-45 ft., 6,494-6,528 ft., T.D. 7,191 ft.
The Chicago Corp. 21 Wardner, 143 bbl., ⅛-in. choke, perf. casing 6,400-08 ft., T.D. 6,615 ft.
Southern Minerals 24 Stratton, 76 bbl., 3/32-in. choke, perf. casing 6,585-93 ft., 6,603-11 ft., T.D. 6,625 ft.
Southern Minerals 25 Stratton, 92 bbl., 3/32-in. choke, perf. casing 6,611-16 ft., T.D. 6,695 ft.
S. E. W. Oil Corp. 1 Union Central Life Ins. Co., 40 bbl. distillate open flow, T.D. 7,192 ft.

SOUTH TEXAS

Wildcats

Duval County: C. A. Maley 1 Holzapfel, dry, T.D. 2,007 ft.
Jim Hogg County: Sun 1 East, dry, T.D. 4,221 ft.
Live Oak County: C. H. Callaghan 1 Smith, dry, T.D. 1,310 ft.
Webb County: Magnolia 1 Duval County Ranch Co., dry, T.D. 2,801 ft.
Magnolia 2 Duval County Ranch Co., dry, T.D. 2,801 ft.

Fields

Casa Blanca, Duval County: Magnolia 4 Duval County Ranch Co., dry, T.D. 1,949 ft.
Texas 49 Duval County Ranch Co., 250,000 cu. ft. gas, ⅞-in. choke, sand 1,053-62 ft., T.D. 1,082 ft.
Charamousca, Duval County: Magnolia 19 Duval County Ranch Co., dry, T.D. 1,723 ft.
Colorado, Jim Hogg County: Humble 28-B King Ranch, 160 bbl., ⅞-in. choke, T.D. 2,956 ft.
Humble 31-B King Ranch, dry, T.D. 2,934 ft.
Killam, Webb County: O. W. Killam, 14 Villareal, 71 bbl., pumping, perf. casing 2,017-23 ft., T.D. 2,075 ft.
Laurel, Webb County: H. W. Slater 1 Laurel, dry, T.D. 2,456 ft.
Lundell, Duval County: Government Wells 55 Lundell, 34 bbl., 12 hr., pumping, sand 1,530-37 ft.
Oakville, Live Oak County: Simmons 1 Dullahan, dry, T.D. 2,877 ft.
Rancho Solo, Duval County: Wheller & Bunn 7-B Peters, 12 bbl., pumping, perf. casing 1,826-32 ft., T.D. 1,853 ft.
Rincon, Starr County: Continental 49-A Slick, 32 bbl. oil and 10 bbl. salt water, gas lift, T.D. 4,204 ft.
Sun 10-B Speer, 238 bbl., ⅞-in. choke, perf. casing 4,629-37 ft., T.D. 4,670 ft.
Continental 5 Wehrle, 134 bbl., ⅞-in. choke, perf. casing 3,794-38 ft., T.D. 4,428 ft.
Rio Grande City, Starr County: Moss & Grote 1 Goodrich-Wood, dry, T.D. 1,487 ft.
G. P. Shelton 1 Holland, dry, T.D. 1,447 ft.
South Campana, McMullen County: Argo 2 Edrington, 107 bbl., ¼-in. choke, sand 3,031-38 ft., T.D. 3,041 ft.
Weser, Goliad County: Hobsco Corp. 3-B Albrecht, dry, T.D. 5,316 ft.
White Creek, Live Oak County: Henderson Coquat 1 Triplett, dry, T.D. 1,594 ft.

SOUTH CENTRAL TEXAS

Wildcats

Milam County: Hamman 1 Powers, dry, T.D. 2,406 ft.
Williamson County: L. A. Gage 1 Henson, dry, T.D. 1,470 ft.
H. G. Dickinson 1 G. C. Pope, dry, T.D. 997 ft.

Field

Gas Ridge, Bexar County: Southwest Drilling Co. 25 Covell, 2 bbl. pumping, sand 404-47 ft., T.D. 460 ft.

SOUTHWEST TEXAS DRILLING REPORT

Duval County: Greer & Palmer 1 E. A. Parr, E. Gutierrez Sur. 13, dry, T.D. 5,411 ft.
Hidalgo County: W. R. Davis 1 Dawley, 2 mi. S of San Juan, dry, T.D. 8,700 ft.
Jim Hogg County: Plymouth 2 Sweeney, 9 mi. NW of Kelsey field, dry, T.D. 5,700 ft.
Sun 1-B East, El Randado grant, Blk. 30, drilling shale 3,725 ft.
Maverick County: Welling Oil Co. 2 Indio Cattle Co., top Buda lime 4,520 ft., Del Rio lime 4,687 ft., drilling lime 5,151 ft.
Nueces County: George B. Buescher 1 Gillette, Robert White Subd., 1 mi. NE of Luby field, drilling shale 5,905 ft.
Victoria County: Juanita Corp. 1 Davies, V. Garcia Sur., drilling shale 3,995 ft.
Webb County: Magnolia 1 Santo Thomas Ranch, 10 mi. SW of Callaghan, drilling shale 2,845 ft.
Union Oil Co. of Calif. 1 Volpe, Survey 2611, T.D. 7,018 ft., running electrical survey.
Willacy County: Clark & Cowden 1 Yturria Cattle Co., San Juan de Carrecitas grant, S.D. 8,503 ft.
Zavala County: Humble 1 Wolf, Pedro Jose de Aguirre grant, 7½ mi. N of Crystal City, drilling lime 6,554 ft.

Appalachian Fields

(Continued from Page 78)

Jackson County

Ripley district: Columbian Carbon Co. 6 Putnam Co., 2,023,000 cu. ft. gas, Corniferous lime 5,292 ft., Oriskany 5,281 ft., shot with 525 lb. gelatin 5,290-5,370 ft., T.D. 5,387 ft.
Columbian Carbon Co. 2 J. W. Weatherholt, 2,069,000 cu. ft. gas before shot, Corniferous lime 5,012 ft., Oriskany 5,120 ft., drilling 5,195 ft.
United Carbon Co. 7 Elizabeth Ward Perkins, 603,000 cu. ft. gas before shot, Corniferous lime 5,048 ft., Oriskany 5,159-5,204 ft., drilling 5,228 ft.

Diesel-Fuel Demand Growing Apace With Engine Building

(Continued from Page 20)

fleet 65 per cent in 1940. The determining factor in the increase was a 30 per cent saving in fuel costs.

Decision of the Burlington Transportation Co. to enlarge its diesel fleet was made after it increased the mileage between overhauls from 12,000 to 100,000 miles and despite the fact that it was unable to obtain uniform fuel. At two of its seven fueling points fuel of 60-cetane number was obtainable, three stocked fuel of 52-cetane number, and two offered oil testing 37-38 cetane. The Pacific Greyhound lines, which have 185 diesel-power buses in a fleet of 525, obtains all its fuel from one source for a single fueling point. This fuel is of 52-cetane number. Part of the Pacific Greyhound service is interurban and coaches used in this service average 6.57 miles per gallon.

TABLE 1—DIESEL-FUEL CONSUMPTION

Year	Diesel fuel	All products
1934	12,725,000	920,164,000
1935	16,174,000	983,686,000
1936	17,229,000	1,092,754,000
1937	21,904,000	1,169,682,000
1938	21,204,000	1,137,123,000
1939	23,867,000	1,231,076,000

TABLE 2—DIESEL-ENGINE MANUFACTURE

Type—	Number	Total hp.
1940		
Marine	2,369	584,340
Stationary	8,354	868,220
Portable, tractors, etc.	16,818	1,591,124
Buses	1,313	118,275
Trucks	1,181	165,725
Railroads	243	213,440
Total	30,278	3,541,124
1939		
Marine	1,788	346,495
Stationary	7,032	684,749
Portable, tractors, etc.	15,555	1,403,091
Buses	381	46,548
Trucks	1,131	98,760
Railroads	175	119,680
Total	26,062	2,726,323

A new use of diesels was introduced recently when the Santa Fe Railway Co. experimented with them in freight service and found them satisfactory. As a result it has ordered three diesel freight locomotives which will be added to 23 passenger and 43 switching units. Incidentally, domestic shipments of 311 railroad locomotives in the first 5 months of this year includes 242 diesel-electric and only 50 steam.

Tractors Dominant Gain

While bus, truck and railroad services are representing a growing factor in the diesel field, they are still dwarfed by others, chiefly by tractors and other portable engines for which 55 per cent of the diesels manufactured last year were designed. The stationary field, including municipal, public-utility and general-industry installations, accounts for 27.5 per cent and the marine field represents 7.8 per cent of the total. All of these classifications have benefited from the defense program. Building of roads, airports, cantonments, naval bases and defense-manufacturing plants has resulted in an unprecedented demand for tractors. The previously mentioned marine program augmented by the Navy program for submarines and auxiliary craft has resulted in a heavy demand for marine engines. Use of diesel-powered generators on larger vessels is also a factor. The stationary-engine field has benefited as industrial activity has risen. A supplementary factor of importance is the installation of numerous emergency generating equipment at many industrial plants, air ports and training camps.

This obviously forecasts a greater consumption of diesel-oil products and the pronounced trend toward the use of high-speed engines, such as the 600-800 r.p.m. engines for pipe-line service, means that a greater volume of high-quality fuels and lubricants will be needed. High-speed engines will not operate satisfactorily on the wide range of fuels and lubricants that have been used on heavier, slow-speed engines. This does not mean that any fuels or lubricants are satisfactory for the latter but merely that overhauls will be required more often for the high-speed engines.

Diesel engines operate on a range of fuels from kerosene to residual oils. Primary considerations of a good diesel fuel are ignition quality, its combustion properties (residue, sulfur content, calorific value) and its physical properties (viscosity, flash, pour point, gravity and cleanliness). Difficulty of starting has been a major fuel handicap.

The fuel-cost factor remains the diesel's principal advantage. For example, recent quotations in the New York Harbor area were 8 cents for gasoline and 5.1 cents for diesel fuel. The latter price can be reduced by the use of even cheaper oil. A power plant is using Bunker C fuel oil for its diesel engines and Bunker C fuel in the New York Harbor area was priced at $1.45 per barrel, or 3.45 cents per gallon. This fuel, on a quantity basis, represents a saving of 60 per cent compared with gasoline and 35 per cent under diesel oil. At this plant the Bunker C oil is filtered and centrifuged before storage. It is heated to 180° F. by exchange with 250° F. water before being introduced into the injection system.

Lubrication a Special Problem

Lubrication of diesel engines is a special problem which straight mineral oils have not solved. Compounded oils are essential, especially for high-speed engines, to prevent ring sticking, gum deposits and sludging. The oil industry has expended much time and money on the problem of lubrication and provides entirely satisfactory lubricants for modern diesels. The accompanying picture shows part of the diesel lubricating-oil testing laboratory of the Standard Oil Co. of New Jersey. The problem of diesel lubrication, like that of the gasoline engine, will doubtless continue as designs change. Use of superchargers and aluminum parts are accompanied by higher temperatures and closer tolerances in working parts.

An important factor in diesel lubrication is the use of filters and oil reclaimers. The necessity for using additives in diesel lubricating oils complicates this factor since some types of filters remove additives as well as water, diluents, colloidal carbon and other foreign matter. Several types of reclaiming devices are used, principally centrifuges and those which filter the oil through activated clay. Many of the centrifugal separators are equipped with heaters which separate the light fractions from the oil and also serve to increase the density difference between the oil and the foreign matter. Most of the activated-clay type reclaimers use fuller's earth though special clays have reportedly been developed for this purpose. Reclaimers are in general use on stationary engines.

It has been estimated roughly that the average diesel installation consumes 200 gal. of fuel and 2 gal. of lubricating oil per horsepower annually. With total diesel installations approximating 16,000,000 hp. this would indicate a total fuel consumption of 80,000,000 bbl. Domestic consumption of all oils will come close to 1,500,000,000 bbl. this year so that diesel consumption will represent but 5 per cent of the total. Using this same "rule of thumb" method, indicated diesel lubricating-oil consumption will be but 3 per cent of the total. Therefore it is obvious that despite the rapid development of the diesel engine, it still represents a minor market so far as the petroleum industry is concerned.

Industry Seeks Steel Rating In Ratio to Oil's Importance

(Continued from Page 14)

specifications. During the long period of a buyer's market in equipment the fancies of individual company engineering departments have been tolerated and even encouraged as a competitive argument. This system has resulted in a wide range of specifications, many of them peculiar to the individual company consumer. Practical application of the narrowed range of specifications is that companies have been forced to compromise in their standards. Castings, for instance, have been substituted for forgings in the fluid ends of certain types of pumps. All along the line manufacturers' standard equipment is now acceptable where a multitude of minor variations were previously insisted upon.

Still another development in the relationship between operators and suppliers is a reshuffling of customers. During periods of material plentitude, purchasing policies and practices of oil companies settled into more or less routine grooves. Now, however, with practically all suppliers short on some equipment items the buyers are searching markets and going on books of manufacturers for the first time. Buyers are now forced to find their needed supplies wherever they are available without regard to previous inhibitions.

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Right of Copyright of Abstract Maps Upheld by U. S. Court

Midcontinent Map Co., of Tulsa, was awarded statutory damages of $1,000 and attorney's fees of $1,500 as a result of a suit brought against Otto C. Kintzel, doing business as the Kintzel Blueprint Co., of Centralia, Ill. The plaintiff company alleged that Kintzel photostated maps of two townships in the Salem field for customers and that he had sold photostat copies of the same maps to various persons. The charge was not denied but the defendant claimed that these maps were not subject to copyright.

In awarding damages to Midcontinent Map Co., Judge Walter C. Lindley, presiding over the U. S. District Court for eastern Illinois, held that the maps were copyrightable and ordered Kintzel to turn over to the plaintiff company all copies, photostats and negatives of their copyrighted maps in his possession. In addition, he permanently enjoined him from infringing on Midcontinent's copyrights.

Illinois Basin A.P.I. Chapter To Meet in Robinson Saturday

ROBINSON, Ill., Sept. 9.—The annual meeting of the Illinois basin chapter of the American Petroleum Institute, Division of Production, will be held here Saturday, September 13.

Several papers on drilling and production practices in the Illinois basin district have been prepared by authorities on various phases of the operations for presentation at the all-day meeting.

Canadian Gasoline Regulations

OTTAWA, Ont., Sept. 9.—G. R. Cottrelle, federal oil controller, has issued an order under which, subsequent to October 1, gasoline throughout Canada will be sold in two grades only, of 75-78 and 66-70 octane rating. An earlier order reduced deliveries from distributors to dealers for the last week of August to 20 per cent of July deliveries; and deliveries in September and October are to be not more than 75 per cent of July deliveries.

Personal Paragraphs

FREDERICK H. HOLMES, formerly assistant superintendent of Texas Co.'s refinery at San Antonio, Tex., has been transferred to Bayonne terminal, New Jersey. Mr. Frederick has been replaced by W. G. COPELAND.

J. E. HARRINGTON, who has served as roughneck, driller, clerk, and other offices during his 18 years of employment with General Petroleum Corp. in Calif., has been made engineer in charge of boiler maintenance and inspection, and has established his headquarters at the company's Vernon offices.

A. FRED MORRIS, geologist with Cities Service Oil Co., has been transferred from Bartlesville, Okla., to Houston, Tex.

CLYDE STRENGTH, chief tool pusher for Hall-Baker Co., has left his work in the Wilmington field for a vacation in northern California.

T. E. BUCHANAN, manager of the marine department of Texas Co., has become a member of the American Bureau of Shipping.

C. R. ROUSSIERE, JR., geologist with Kirby Petroleum Co., is now stationed in Jackson, Miss., where his company is active in the Tinsley pool.

LEE A. ADAMS, scout for Sinclair Prairie Oil Co., has been promoted from captain to major in the U. S. Army. Major Adams has not yet been called into active service.

HACK JONES, employe at the Sunray Oil Co., refinery at Allen, Okla., has accepted a position with Douglas Oil & Refining Co., at Wilmington, Calif.

E. E. TISDALE, of Grand Fork, N. D., has moved to Midland, Tex., to assume the duties of geologist for the Plymouth Oil Co. Mr. Tisdale was formerly with the North Dakota Geological Survey.

J. FRANK WILSON, vice president and general manager of Sohio Corp., Mount Vernon, Ill., was injured in an automobile accident near Grenada, Miss., last week, in which his daughter, Katherine Wilson, 17, was killed. Mr. Wilson and his daughter were en route to Jackson, Miss., on a business trip when their car collided with a truck.

V. L. ADAMS has taken over the supervision of General Petroleum Corp.'s production leases in the Santa Fe Springs, California, field in addition to his former duties as production foreman in the company's Yorba district.

BRUCE ROBINSON, who was formerly headquartered at the Vernon, Calif., offices of General Petroleum Corp., has been made general superintendent of both drilling and production for the southern division of the company and has established headquarters in the company's Los Angeles offices in the Higgins Building.

R. M. GAWTHORP, district geologist for Sinclair-Wyoming Oil Co., has been transferred from Jackson, Miss., to the Tulsa offices of Sinclair Prairie Oil Co. DON REESE, formerly stationed at the Houston, Tex., offices of Sinclair-Wyoming, succeeds him at Jackson.

ALSTON B. BARROW and BERYL K. BEAN are preparing to open a petroleum engineering office at Grayville, Ill. Mr. Barrow was formerly district engineer in the Illinois basin for Superior Oil Co., and Mr. Bean has been active in the Illinois oil field for the past 2 years.

E. J. CARNAHAN, formerly production foreman for General Petroleum Corp. in the Santa Fe Springs, Calif., district, has been made production superintendent of the southern division of the company and has established his new headquarters at the Vernon offices of the company.

DR. F. W. LEE, of the U. S. Geological Survey, has arrived in the Pennsylvania region where he will map plans for geophysical work in the region under a joint state-federal contract. The study, which has been under discussion for some time, includes the use of the electric ground resistivator first in drilled areas and later in sections where there has been little or no production.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The Russian Mining Department urged that the government engage in the production of oil in the Baku district. Nobel Brothers paid shareholders in their company a total of 9,000,000 rubles during the past year.

Cosden & Co. is enlarging its West Tulsa refinery to a capacity of 30,000 bbl.

Sinclair Oil & Refining Co. has brought in a high-grade well in Garfield County (Garber field).

20 YEARS AGO

The Cunard liner Mauretania is to be converted into an oil burner.

During the past month, 19 wells were completed in Illinois of which 8 were dry and the 11 producers yielded a total initial production of 180 bbl.

The Texas Co. proposes to form a new company to take over its extensive sulfur properties in Mexico, according to reports from Wall Street.

10 YEARS AGO

Actual operation of the 681-mile line from Borger to St. Louis has demonstrated the soundness of this method of transporting gasoline and other petroleum products.

According to an announcement made by Northern Natural Gas Co., more than 100 towns will be served by the company at the end of 1931.

During the month of August, two wells were completed in Illinois of which one was dry. Total completions for the United States during the month were 760, of which 283 were in East Texas.

The Texas Railroad Commission has set a 225-bbl. allowable for East Texas wells. Governor Murray of Oklahoma stated that as the result of reopening the field, Texas had lost the fight after it had won it. He continued to demand a price of $1 a barrel for crude.

HUGH CRAWFORD, engineer with Phillips Petroleum Co., has been transferred from Kansas City, Kans., to Bartlesville, Okla.

FELIX McCURDY, district engineer in charge of Lone Star Gas Co.'s compressor station at Gainesville, Tex., has been elected commander of the Gainesville American Legion post.

EMMETT LEE, Community Natural Gas Co., Brownwood, Tex., has received personal recognition from the Texas State Department of Public Safety for "excellent assistance at the scene of an accident."

LEONARD RECK, Bradford, Pa., an electrician for Kendall Refining Co., suffered a crushed foot a week ago when a pumping unit near State Line, Pa., which he was servicing, unexpectedly started operating from a time switch.

CHURCHILL HAENKE, petroleum engineer for Hall-Baker Co., is on leave of absence from his work in the Wilmington field of California while he serves in the Communications Department of the Aviation Corps at Salinas, Calif.

DAVID A. (ARCH) LOCKE, son of GEORGE D. LOCKE, retired vice president of Barnsdall Oil Co., has been appointed superintendent of the Illinois-Indiana division of Toronto Pipe Line Co., with headquarters in Evansville, Ind.

H. M. HARMON, former assistant superintendent, Cities Service Oil Co., E. Braintree, Mass., has been appointed superintendent succeeding D. P. STURGIS, who has been made superintendent of the company's asphalt plant at Linden, N. J.

C. W. PARSONS, formerly consulting geologist and engineer in Los Angeles, Calif., is now with Hall-Baker Co. at their Wilmington, Calif., offices.

MYRL W. HURLEY, who has been a sample washer for some time in Shell's geological department, has been promoted to assistant micropaleontologist and will in the future work in and out of the company's Long Beach laboratory.

PAUL SHOFFSTALLS, with Sunray Oil Co., in Oklahoma City, Okla., has been transferred to Refugio, Tex. L. E. PRUITT, gas engineer with Sunray, has been transferred from the Texas district to Guthrie, Okla., where he is engaged in some special work.

PARKE A. DICKEY, oil and gas geologist of the Pennsylvania Topographic and Geologic Survey, will present a paper on "Electric Logging" at the oil and gas session of the Engineers Society of Western Pennsylvania at Port Allegany, Pa., September 12 and 13.

STUART E. BUCKLEY, engineer, Humble Oil & Refining Co., addressed the East Texas section of the American Institute of Mining and Metallurgical Engineers, at Tyler, Tex., September 9. His subject was "Effect of Oil and Later Production on Reservoir Pressure in the East Texas Field."

CECIL MORGAN, formerly chief of the legal staff of Standard Oil Co. of Louisiana, at Shreveport, has been moved to Baton Rouge, La., where he joins the company's legal staff there. GEORGE WILSON, formerly counsel for the Louisiana Conservation Commission, succeeds Mr. Morgan at Shreveport.

FRANK YOUNG, Illinois oil man who was injured in an automobile accident August 24, will be confined for another 3 weeks in a Bellows Falls, Vt., hospital, where he was taken following the accident. Mr. Young suffered a dislocated hip and fractured ankle. He will return to oil activities in Illinois when he has recovered.

No Newcomer

No newcomer to the oil industry but a newcomer to the country's oil producers is Russell H. Volk, vice president and general manager of the Plains Exploration Co. in Denver, Colo., who began successfully developing properties in and around the Zenith pool in Stafford County, Kansas, early this summer. He is a product of the Colorado School of Mines.

RUSSELL H. VOLK

His entire career, except for a year immediately after graduation spent as geologist in Mexico for the Haustica Petroleum Co., has centered on the School of Mines.

In 1927 he returned to the school as instructor in petroleum engineering and the following year married Miss Alice C. Mickey, a Denver girl. While on the faculty at Mines he earned his M.S. degree and provided the driving force for the Plains Exploration Co., which a group of professors at the school were organizing for the purpose of exploring eastern Colorado for oil.

He took over active management of the company in 1931, hung on with typical bulldog courage until Gulf Oil Co., the last of the "majors" to leave the eastern Colorado play, had pulled out, and finally began switching the company's holdings to western Kansas. Mr. Volk and his group, particularly William E. Porter, a Denver financier, stuck through the lean years and a couple of disappointments in both Oklahoma and Kansas, and in 1939 started playing Stafford County, Kansas, which in the past 2 years has become one of the leading oil areas of the state.

As a side line, Mr. Volk has been active in alumni affairs, edited the "Mines Magazine" in 1938, is past president of the Mines Alumni Association and keeps in touch personally with Mines men scattered from Siberia and occupied Poland to China and South America.

A stroke of good luck has accompanied the birth of each of the Volks' three children—Drackie, 8; Dickie, 5, and Dasa, 4 months—and it was just 4 months ago that Mr. Volk brought in his first oil well.

DR. R. SCHIDER, geologist for the Royal Dutch-Shell group, London, sailed from New York for Caracas, Venezuela, last week.

W. H. GEIS, assistant to the president of Union Oil Co., has returned to his office in Los Angeles, Calif., following an extended stay in Washington, D. C.

ROBERT W. ROBSON, an assistant to W. S. ARTHURS, chief scout of Skelly Oil Co., Tulsa, is celebrating the arrival of a son, his and Mrs. Robson's first child.

CARTER PANNILL has been transferred to Bogota, Colombia, as executive representative of Andian National Corp., and Tropical Oil Co., replacing RAY I. DODSON, who has been transferred.

H. B. HURLEY, for the past 3 years assistant general superintendent of the Fort Worth division, Continental Oil Co., has been elevated to general superintendent, succeeding H. B. SIMCOX, who retired September 1, after 48 years of service in the oil industry.

JUSTIN RAMSEY will leave September 12 from New York City for Venezuela, South America, where he is to be employed by the Socony-Vacuum Oil Co., Inc. Mr. Ramsey just recently arrived in the United States from Egypt where he has spent 2½ years as an oil driller for Socony-Vacuum.

J. H. MACGAREGILL, a director of Standard Oil Co. of California, has been elected vice president and placed in charge of marketing operations of the company, and F. S. BRYANT, also a director, has been appointed assistant to the president. Both remain as directors.

HARRY D. L'HEUREUX, assistant sales manager of Los Angeles, Calif., district for General Petroleum Corp., has completed 30 years' service with the company and during this period has been a roustabout, clerk, bookkeeper, accountant, salesman, and branch manager in the accounting, marine and sales departments of the company.

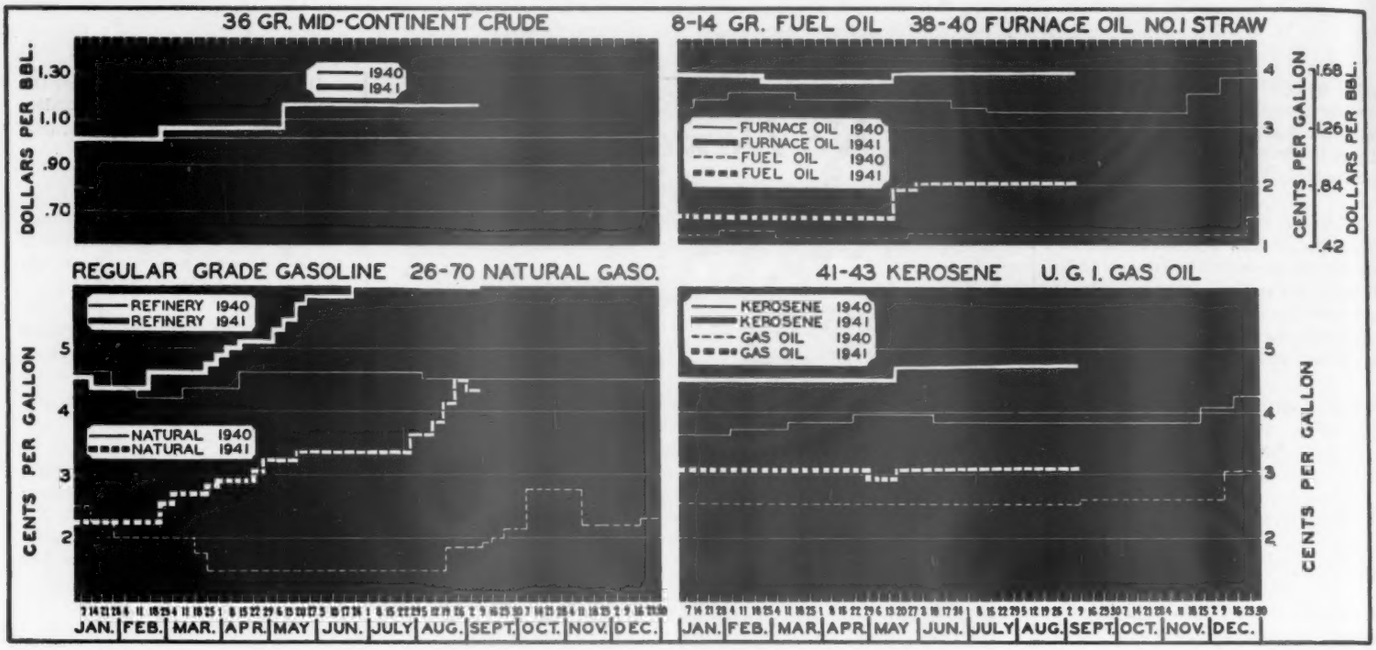
Shifts: CRAIG FERRIS, geologist, Mott-Smith Corp., from Huntsville, Tex., to Harvey, N. D.; H. E. LILLIBRIDGE, geologist, Eason Oil Co., from Jackson, Miss., to Shreveport, La.; E. R. BROCKWAY, geologist, Devonian Oil Co., from Shreveport, La., to Marksville, La.; HARRY X. BAY, geologist, Texas Co., from Shreveport, La., to Houston, Tex.; W. R. DAMERON, manager, Foster Petroleum Oil Co., from Dover, Del., to Greenville, Miss.; C. F. SELLERS, geologist, Robert H. Ray, Inc., from Bismarck, N. D., to Houston, Tex.; S. P. WEATHERBY, engineer, Western Geophysical Co., from Seminole, Okla., to Tulsa; EDWIN C. WEINIGER, engineer, Phillips Petroleum Co., from Bartlesville, Okla., to Austin, Tex.; H. L. JOHNSTON, superintendent, Continental Oil Co., from Hobbs, N. M., to Fort Worth, Tex.; E. C. HEIDRICH, JR., manager, Black-Knight Oil Co., from North Port Point, Mich., to Peoria, Ill.

RALPH PARK RUSSELL, superintendent of car service for the Pennsylvania Railroad, has been appointed by RALPH K. DAVIES as chief of the rail-transportation section of the Petroleum Coordinator's Office. Mr. Russell will devote his full time to railroad-transportation problems as they apply to the oil-shortage problem.

DONALD M. REESE, district geologist for the Sinclair Prairie Oil Co., at Houston, Tex., has been transferred to Jackson, Miss., as division geologist. DON BENSON, formerly assistant district geologist at Houston, has been made district geologist.

DON L. CONNELLY, formerly with Indian Territory Illuminating Oil Co., Bartlesville, Okla., has assumed new duties as manager of the land, lease and geological department comprising the states of Texas, Louisiana, Mississippi, Arkansas and New Mexico, for Cities Service Oil Co., and is now located in Houston, Tex.

GROVER ELLIS, JR., organizer and first president of the Houston Derrick Club, will leave Houston, Tex., shortly to complete his senior year at University of Oklahoma. He has been succeeded as president by JACK OLSEN, Shell Oil Co., Inc. Other officers elected are JIM KERR, Brown Geophysical Co., vice president; JACK REESE, Stanolind Oil & Gas Co., secretary, and SANDY FOOTE, Shell Oil Co., Inc., treasurer.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Plans for Greater Use of Railroads May Affect Mid-Continent Markets

By H. STANLEY NORMAN

INSTITUTION of emergency tank-car freight rates in an effort to cushion the transportation shortage to the eastern states may exert a strong influence on Mid-Continent petroleum markets during the next 6 months. The transportation shortage exists only between Gulf Coast points and the eastern seaboard but the emergency solutions now receiving the most consideration promise, if adopted, to exert an influence on petroleum markets in practically all sections of the country east of the Rocky Mountains.

The relatively greater attraction of short hauls by railroad tank cars as compared to the longer movement may reshuffle petroleum markets to an extent not currently visualized. Indications are that a greater volume of petroleum will be moved from the Middle West to the East Coast as the tanker shortage grows more acute. Texas and the Mid-Continent will be called upon, in that event, to replace petroleum products moved east of its normal marketing territory. Waves of the petroleum market radiating from Louisiana, Texas, and New Mexico may conceivably reach their maximum force in Oklahoma and Kansas and force a larger volume of crude and products from this territory into northern states.

Outside Influence Growing

Extent to which product prices are permitted to rise on the eastern seaboard to compensate for the higher costs of transportation will have an important influence on Mid-Continent markets. There is a possibility that higher prices on the eastern coast will act as a vacuum on petroleum products normally consumed in the Middle West and in turn the interior markets might be expected to rise in some fixed ratio but probably not in direct parallel.

Interest in kerosene and distillate fuel oils from distributors in the Chicago and Milwaukee, Wis., areas continued to gain this week. Buyers are actively searching the Mid-Continent market for burning products. Demand is brisk for limited quantities for immediate shipment but the big search involves materials that can be delivered over the winter months. Mid-Continent refiners are not particularly interested in committing stocks or future production on the basis of present bids. Feeling is general that distillate fuels, as well as residuals, will command higher prices as the autumn and winter seasons develop. Refiners are anxious to retain maximum freedom in commitment of their fuels, particularly since the OPA at Washington, D. C., has indicated that eventually maximum prices will be established for all products. Fuel demand on the East Coast and outlook for supplies present a combination of circumstances indicating price control may be imposed in the near future.

Shipments of motor fuel have tapered off only slightly since peak of the consuming season was reached Labor Day. Demand is still active and northern jobbers are insisting on near maximum shipments against their contracts. Prices in the Mid-Continent are steady and unchanged at a range of 6 to 6.25 cents per gallon for regular 72-74 octane material. Major companies remain an important factor in the spot market and several are willing purchasers for prompt delivery.

Numerous Inquiries Unserviced

Much higher volumes of gasoline could be moved from the Mid-Continent to northern markets if available. Mid-Continent refiners who normally handle large volumes of gasoline on a brokerage or resale basis are unable to accept inquiries in numerous instances. This condition is reflected by unprecedented movement of motor fuel by barges and river tankers from the Gulf Coast north through the Mississippi River.

The strongest natural-gasoline market in recent years is confronting Group 3 manufacturers with new problems. Much of the current movement of natural gasoline is into the hands of jobbers for blending motor fuel to winter specifications. Indications are that this demand will continue through most of the winter and a further advance in prices is expected. Manufacturers are now imposing proration on deliveries of natural gasoline to purchasers. Deliveries are limited on a basis of previous purchases and inquires from new customers are serviced only after established accounts are satisfied.

Refined Oil Market Barometer

Fuel-oil prices are stiffening on the East Coast and inquiries for burning products are more active in the Gulf and interior refinery markets. Movement of gasoline was brisk this week as refiners shipped stocks to replenish distributors' tanks depleted by Labor Day demand. The ceiling on 80-research gasoline previously pegged at 6 cents on the Gulf Coast has been raised to 6.5 cents.

MID-CONTINENT: Natural-gasoline manufacturers prorate shipments.

GULF COAST: Scarcity of motor fuel prevents test of higher ceiling.

CALIFORNIA: Refinery gasoline and lubricants advanced.

PENNSYLVANIA: Producers fighting crude-price ceiling.

CHICAGO: Distributors increase search for fuel oils.

Higher Eastern Prices Seen as Gulf Coast Ceiling Is Raised

By J. P. O'DONNELL

NEW YORK, Sept. 9.—The possibility of higher retail and wholesale prices in the East Coast marketing area was regarded as enhanced last week by the introduction of new developments in the highly complicated picture. These were the removal of the ceiling in Gulf Coast gasoline prices by the Office of Price Administration and the demand for increased retail prices put forward at a meeting in Philadelphia of 500 service-station operators representing 11 eastern states and the District of Columbia.

Last Thursday, Leon Henderson, OPA head, sent telegrams to Gulf Coast refiners stating "we will offer no objection to a price of 6.5 cents for motor gasoline 80 octane '39 research rating with 2 cc. lead provided differentials usually prevailing are maintained for lower quality leaded and unleaded gasolines." Since the East Coast refined market is affected directly by Gulf prices, some observers were inclined to view this action as holding promise for corresponding improvement in the East Coast.

Motor gasoline of 80 octane is now quoted at 8.5 to 9 cents in New York Harbor and a 0.5 cent increase would lift prices to a 9-cent minimum. Acting against this eventuality, however, is the accompanying suggestion from the OPA that the increase should not be applied to larger refineries producing gasoline for shipment to North Atlantic ports.

While the East Coast market as a whole remained virtually unchanged last week there were substantial increases in wax quotations as a result of a revival of export business. Minimum quotations of 124-26 A.m.p. grades were reported up 0.25 cent to 5.5 cents while some transactions were reported on the basis of 5.75 and 6 cents per pound. Buying under the Lend-Lease Act is credited with the sudden improvement in wax, which had been slumping since a brief spurt earlier in the year.

Export demand for wax has dropped substantially this year but the loss has been more than offset by an increase in domestic requirements. Export demand in the first half of year was for only 80,700,000 lb. against 129,800,000 lb. a year ago. In contrast, domestic demand was up to 243,200,000 lb. against 146,900,000 last year. Overall demand for the first half was up 46,200,000 lb. or approximately 17 per cent.

Independent service stations throughout the east continued to ignore the "fair maximum retail prices" suggested by OPA in a majority of cases. The suggested prices were those generally in effect August 1. Since then quotas have been reduced and operators claim costs have risen. At the Philadelphia meeting the 500 representatives unanimously adopted the following resolution: "Be it resolved that the national administration make known to the motoring public that the diminished gallonage sold to and by the retailer involves some increase in the retail price because of the necessity of the retailer meeting fixed items of expense."

The meeting also took the following steps: Asked for representation of retailers on the eastern marketing committee; that a separate organization representing retailers exclusively be set up in Washington to advise both the oil administrator's office and OPM; that the onus of rationing be taken from the men at the pumps and a priorities system established; asked the Government to base rationed deliveries on 1940 monthly consumption figures instead of 1941; and adopted a resolution pledging full support to the defense program.

While most of the consideration in the East Coast shortage has been devoted to gasoline, concern was voiced last week on the ability of the industry to meet fuel-oil demands. Fuel-oil suppliers have suggested reducing temperatures in oil-heated homes, offices and factories from 70° to 65° and prolonging school vacations at Christmas to reduce consumption. Stocks of heating oil increased in the last week of August, rising 370,000 bbl. to 15,266,000 bbl., but they are still 1,500,000 bbl. below last year when the demand was not so heavy. Inadequate heavy-fuel-oil stocks, off 2,700,000 bbl. from a year ago, are also the subject of concern with 1941 demand running substantially ahead of 1940.

There has been no action taken in rationing fuel-oil supplies yet and none will be taken, it is understood, as long as reductions in motor-fuel consumption are sufficient. Gasoline deliveries for September were set at 10 per cent under July figures with the burden to be borne by private motorists who will find their supplies reduced about 15 per cent while those of essential services are maintained at 100 per cent. New York taxicab companies are expected to reduce their daily consumption by 50,000 gal. as a result of reduced cruising. This would account for about 1.8 per cent of the September goal.

There were several developments during the past week which may have an important effect on export markets. Among these was the establishment of a tanker control committee whose duty it will be to see that Latin-American countries are supplied in a ratio equivalent to that in the United States Atlantic seaboard. In order to do this it is probable that such countries as Brazil, Chile, Uruguay, etc., which were principally dependent on the United States for supplies, will henceforth get the oil from Aruba and Curacao to reduce tanker requirements. President Roosevelt

(Continued on Page 103)

Coastal Refiners Have Little Gasoline for Open Market

HOUSTON, Tex., Sept. 8.—Raising by the OPA of its ceiling price for 80-Research gasoline at the Gulf Coast from 6 to 6.5 cents has provided the leeway for further strengthening of motor fuels. However, with very little, if any, gasoline to sell, Gulf Coast refiners still are not in position to take advantage of the advance.

Few independent Gulf Coast refiners will have any open material for sale until late September, and several refiners are now sold up until the middle of October. Meanwhile, the market continues nominal at previous levels. Ability to maintain the market at the ceiling levels is expected to hinge largely on the extent of new business that materializes with the fulfillment of present commitments.

Until existing commitments on gasoline are cleaned up, there is not expected to be much call for kerosene, as gasoline seems to be taking precedent in loadings in the desire of buyers to move this material. Coupled with this is the fact that sellers are not much interested in the present prices for kerosene, which are considered out of line and on the low side.

Also there is no inclination to offer No. 2 fuel at present price of 3.5 cents. At the present price of gasolines, No. 2 fuel is worth more as cracking stock than for sales as burning oil.

Bunker C fuel remains strong at 85 cents with little material available.

A.P.I. Weekly Refinery Statistics

Week Ended September 6, 1941

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	19,803,000	9,498,000	15,671,000	629,000
Appalachian	83.8	3,005,000	562,000	577,000	137,000
Ind., Ill., and Ky.	84.4	14,846,000	4,419,000	5,199,000	641,000
Okla., Kans., and Mo.	80.7	6,815,000	2,040,000	2,050,000	317,000
Inland Texas	63.2	2,325,000	1,309,000	466,000	134,000
Texas Gulf	91.0	11,029,000	8,164,000	6,299,000	955,000
Louisiana Gulf	94.2	3,067,000	1,904,000	1,589,000	152,000
N. Louisiana and Ark.	49.9	401,000	417,000	342,000	48,000
Rocky Mountains	50.1	1,021,000	426,000	132,000	51,000
California	90.9	13,759,000	64,886,000	12,612,000	579,000
Total reported	86.4	76,071,000	93,625,000	44,937,000	3,643,000
Est. unreported	.....	5,500,000	1,500,000	1,190,000	352,000
*Est. total	.....	†81,571,000	95,125,000	46,127,000	3,995,000
*Est. total previous wk.	.....	81,672,000	95,052,000	45,351,000	4,070,000
*Sept. 7, 1940	.....	83,402,000	107,267,000	45,672,000	3,500,000

*Bureau of Mines. †Includes 7,184,000 bbl. aviation gasoline.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended August 30, 1941	249,413,000 barrels
Week ended August 23, 1941	248,910,000 barrels
Week ended August 24, 1940	265,865,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

RETAIL OIL MARKETS...

Tank-wagon and filling-station prices on gasoline and kerosene furnished by larger marketing firms

Prices as of September 9, 1941

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Chicago, Ill.	16.1	14.1	4.5	10.3
Decatur	15.4	13.4	4.5	9.5
Joliet	16.4	14.1	4.5	10.3
Peoria	16.2	14.7	4.5	10.1
Quincy	13.4	12.4	4.5	10.0
Davenport, Ia.	16.2	14.7	4.5	10.1
Des Moines	15.9	12.9	4.5	9.8
Mason City	16.2	14.7	4.5	10.1
Duluth, Minn.	17.7	16.2	5.5	10.6
Mankato	17.4	15.9	5.5	10.3
Minneapolis	17.4	15.9	5.5	10.3
La Crosse, Wis.	17.4	15.9	5.5	10.3
Green Bay	17.7	16.2	5.5	10.6
Milwaukee	17.6	16.1	5.5	10.5
Detroit, Mich.	15.9	14.4	4.5	9.6
Grand Rapids	15.9	14.4	4.5	9.6
Saginaw	15.9	14.4	4.5	9.6
Evansville, Ind.	16.9	15.4	5.5	9.6
Indianapolis	17.1	15.2	5.5	9.8
South Bend	17.5	16.0	5.5	10.2
Fargo, N. D.	18.4	16.9	5.5	11.3
Huron, S. D.	17.8	16.3	5.5	10.7
Kansas City, Mo.	14.9	13.4	4.5	9.4
St. Louis	13.4	11.9	4.5	9.8
St. Joseph	15.7	14.2	4.5	9.6
Wichita, Kans.	14.8	13.3	4.5	8.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers. On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off, minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective July 17, 1941, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents; 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex fuel oil A, 1-99 gal., 8.0 cents; 100-399 gal., 7.0 cents; 400-749 gal., 6.0 cents, 750 gal. and over, 5.25 cents. Stanolex fuel oil B, 1-99 gal., 8.0 cents 100-399 gal., 7.0 cents; 400-749 gal., 6.0 cents; 750 gal. and over 5.25 cents. Stanolex Bunker C fuel oil, 1-399 gal., 6.5 cents; 400-999 gal., 5.5 cents; 1,000 gal. and over, 4.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	18.00	18.00	7.5	10.0
Augusta	18.00	18.00	7.5	9.5
Macon	18.00	18.00	7.5	10.0
Savannah	17.00	17.00	7.5	9.0
Birmingham	18.50	18.50	8.5	8.0
Mobile	18.50	18.50	9.5	8.5
Montgomery	19.50	19.50	9.5	10.0
Jackson, Miss.	17.50	17.50	7.5	9.0
Vicksburg	17.00	17.00	7.5	8.5
Jacksonville, Fla.	18.00	18.00	8.5	8.0
Miami	18.00	18.00	8.5	8.0
Pensacola	18.50	18.50	9.5	8.0
Tampa	18.00	18.00	8.5	8.0
Lexington, Ky.	17.00	17.00	6.5	9.0
Covington	16.0	16.0	6.5	9.0
Louisville	16.50	16.50	6.5	8.5
Paducah	16.50	16.50	6.5	8.5

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax, and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Atlantic City	13.0	14.0	4.5	7.9
Newark	13.0	14.0	4.5	7.9
Annapolis	13.85	15.35	5.5	9.7
Baltimore	13.25	14.75	5.5	8.7
Cumberland	14.65	16.15	5.5	10.2
Washington, D. C.	11.50	13.00	3.5	9.2
Danville, Va.	15.45	17.45	6.5	10.45
Norfolk	14.25	16.25	6.5	10.2
Petersburg	14.55	16.55	6.5	11.2
Richmond	14.55	16.55	6.5	11.2
Roanoke	15.75	17.75	6.5	10.7
Charles'n, W. Va.	15.55	18.05	6.5	11.5
Parkersburg	14.85	17.35	6.5	11.2
Wheeling	15.25	17.35	6.5	11.8
Charlotte, N. C.	17.40	18.90	7.5	9.5
Hickory	17.95	19.45	7.5	10.5
Mount Airy	17.80	19.30	7.0	9.7
Raleigh	17.15	18.65	7.0	10.5
Salisbury	17.45	18.95	7.5	10.9
Charleston, S. C.	15.25	17.75	7.5	(*)
Columbia	16.10	18.60	7.5	(*)
Spartanburg	16.80	19.30	7.5	(*)

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at a time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery: 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

*Kerosene business of the company at these points now exclusively handled by dealers.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	14.0	15.0	5.5	10.15
Pittsburgh	14.5	15.5	5.5	10.5
Allentown	14.5	15.5	5.5	10.5
Erie	14.5	15.5	5.5	10.0
Scranton	14.5	15.5	5.5	10.5
Altoona	14.5	15.5	5.5	10.5
Dover, Del.	...	15.5	5.5	10.5
Wilmington	...	15.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17.5	18.5	4.5	11.5
Los Angeles	17.0	18.0	4.5	10.0
Fresno, Calif.	18.5	19.5	4.5	12.5
Phoenix, Ariz.	21.5	22.5	6.5	12.5
Reno, Nev.	20.5	21.5	5.5	13.5
Portland, Ore.	20.0	21.0	6.5	13.5
Seattle, Wash.	20.0	21.0	6.5	13.5
Spokane	21.5	22.5	6.5	16.5
Tacoma	20.0	21.0	6.5	13.5

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Comm. tank wag.	Gasoline Dlr.* tank wag.	Gasoline Inc. tax	Kero. tank wag.
Albany	14.2	14.7	5.5	7.7
Met. New York	14.4	14.9	5.5	8.0
Buffalo	14.5	15.0	5.5	8.3
Rochester	15.1	15.6	5.5	8.8
Syracuse	14.8	15.3	5.5	8.7
Portland, Me.	14.6	15.1	5.5	8.1
Manchester, N. M.	15.6	16.1	5.5	9.0
Burlington, Vt.	15.2	15.7	5.5	8.3
Boston, Mass.	13.2	13.7	4.5	8.0
Worcester	13.8	14.3	4.5	8.1
Hartford, Conn.	13.9	14.4	4.5	7.6
New Haven	13.3	13.8	4.5	5.9
Providence, R. I.	13.3	13.8	4.5	7.8

*Undivided.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	14.5	5.5	11.0
Grand Junction	18.0	5.5	12.5
Pueblo	14.5	5.5	9.5
Casper, Wyo.	17.0	5.5	12.0
Cheyenne	16.0	5.5	11.5
Billings, Mont.	18.0	6.5	12.5
Butte	17.0	6.5	13.5
Great Falls	17.0	6.5	12.5
Helena	17.0	6.5	13.0
Salt Lake, Utah	18.5	6.5	14.5
Boise, Idaho	†20.1	6.5	16.5
Twin Falls	†21.1	6.5	17.0
Albuquerque, N. M.	*17.5	7.0	10.0
Roswell	*15.5	7.0	8.5
Santa Fe	‡18.0	7.5	10.0

*Includes city tax of 0.5 cent. †Includes toll-bridge tax of 1 mill. ‡Includes city tax of 1 cent.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car	Gasoline Dlr. tank wag.	Gasoline Incl. tax	Kero. tank wag.
New Orleans, La.	15.25	17.25	8.5	‡10.0
Baton Rouge	15.25	17.25	8.5	‡10.5
Alexandria	15.25	17.25	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.50	18.00	8.5	‡10.0
Shreveport	15.0	17.5	8.5	9.0
Knoxville, Tenn.	18.00	20.50	8.5	12.5
Memphis	16.25	18.75	8.5	10.5
Chattanooga	17.50	19.5	8.5	11.0
Nashville	17.75	19.5	8.5	10.0
Bristol	18.25	18.75	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Texarkana, Ark.	14.0	5.5	6.0
Fort Smith	15.5	7.0	6.5
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	15.5	7.0	8.0
Oklahoma City	15.0	7.0	8.0
Tulsa	15.0	7.0	8.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Incl. tax	Kero. tank wag.
Omaha	17.9	15.4	6.5	9.8
McCook	18.5	15.9	6.5	9.5
Norfolk	18.4	16.9	6.5	10.3
North Platte	18.8	16.4	6.5	10.7
Scottsbluff	18.9	16.0	6.0	10.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Incl. tax	Kero. tank wag
Dallas, Tex.	13.0	16.5	5.5	7.0
Fort Worth	13.0	16.5	5.5	7.0
Houston	13.0	17.0	5.5	8.0
San Antonio	13.0	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Incl. tax	Kero. tank wag.
Halifax, N. S.	28.5	13.0	19.0
St. John, N. B.	28.5	13.0	19.0
Montreal, Que.	27.0	11.0	17.5
Toronto, Ont.	27.5	11.0	18.0
Hamilton, Ont.	27.5	11.0	18.0
Winnipeg, Man.	30.5	10.0	22.5
Brandon, Man.	31.0	10.0	23.0
Regina, Sask.	28.0	10.0	20.0
Saskatoon, Sask.	30.8	10.0	22.8
Edmonton, Alta.	28.9	10.0	20.9
Calgary, Alta.	26.0	10.0	18.0
Vancouver, B. C.	25.0	10.0	24.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In Maritime Provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of Kentucky advanced the dealer and tank-wagon price of regular gasoline 0.5 cent per gallon August 28 at Jackson, Miss., and on August 27 advanced prices to both classes of trade 1 cent at Covington, Ky. The company reduced dealer and consumer tank-wagon prices 1 cent August 16 at Miami, Fla., and then rescinded the cut on August 28. The company discontinued markets on third-grade gasoline at Augusta, Ga., August 25 and at Miami, Fla., on August 28.

PRICES OF REFINED PRODUCTS...

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of September 9, 1941
(Most prices in cents per gallon)

The quotations are exclusive of the federal excise taxes of 1.5 cents a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:

72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055
60-62 400 grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055

NORTH TEXAS—

U. S. Motor grades:

72-74 octane (regular)	.05875	.06125
63-66 octane	.0550	.06
60 octane and below	.05125	.05375
60-62 400	.05	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:

72-74 octane (regular)	.05875	.06125
63-66 octane	.0550	.05875
60 octane and below	.05	.06

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:

72-74 octane (regular)	.05875	.06125
60 octane and below	.05	.05375

CHICAGO (Based on Group 3)—

U. S. Motor grades:

72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055
60-62 400 grades:		
72-74 octane (regular)	.06	.0625
63-66 octane	.05625	.05875
60 octane and below	.0525	.055

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)	.0750	.0775
80 octane (1939 Research)		.0800

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.065	.0725
54-58 U. S. Motor	.0575	.0625

EAST COAST (domestic)—

U. S. Motor (minimum 72 octane):

New York (Bayonne) *	.08	.085
Philadelphia	.08	.0825
Boston	.085	.09
Baltimore	.08	.0825
Charleston, S. C.	.0725	.0775

*All grades of gasoline ½ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:

80 (research)	.0625	.0650
72-74 octane (leaded)	.06	.0625
70-72 octane (unleaded)	.06	.0625
68-70 octane (unleaded)	.0575	.0600

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.04375
Grade 18-55	.0525

NORTH TEXAS—

Grade 26-70	.04
Grade 18-55	.048

CALIFORNIA—

75-85 375-390	.045	.05

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.04125

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p. 110-flash, 540-550 e.p.	.0375	.03875
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.03875	.04
46-48 gr., 210-230 i.b.p. 480 max., e.p.	.04125	.0425

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

NORTH TEXAS—

41-43	.0425	.04625

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04375	.04625

ARKANSAS (Ark. and N. La. del.)—

41-43	.04375	.04625

PENNSYLVANIA (inland refineries)

46	.06	.065
45	.06	.06375

CHICAGO (Based on Group 3)—

42-44	.0450	.0475
41-43	.04375	.04625

CALIFORNIA (Pac. Coast market)—

38-40 high-burning test	.045	.055

NEW YORK (Bayonne, N. J.)—

41-43		.055

GULF COAST (domestic)*—

41-43	.0375	.04

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.04	.0425
No. 1 white (38-42)	.03875	.04125
No. 1 straw (38-40)	.0350	.03625
No. 2 straw (32-36)	.0350	.03625
No. 3 zero to 10 (28-32)	.03375	.0350

NORTH TEXAS—

No. 1 white (38-42)	.0375	.03825
No. 1 white (38-42)	.03825	.04125

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2 (32-36)	.0325	.03375

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.0325	.03375

CHICAGO (Based on Group 3)—

Range oil	.04	.0425
No. 1 white (38-42)	.03825	.04125
No. 2 straw (32-36)	.035	.03625
No. 3 zero to 15 (28-32)	.03375	.035

NEW YORK (Bayonne, N. J.)—

*No. 1		.055
*No. 2	.051	.0525
*No. 3	.051	.0525

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

No. 5, low pour point (18-22)	.85	.90
No. 6, 15 and above (10-16)	.85	.90

NORTH TEXAS—

No. 5, low pour point (18-22)	.80	.85
No. 6, 15 and above (10-16)	.80	.85

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.80	.85

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.0325	.035
No. 5, low pour point (18-22)	.85	.90
No. 5, 15 and above (18-22)	.85	.90
No. 6, low pour point (10-16)	.85	.90
No. 6, 15 and above (10-16)	.85	.90

PENNSYLVANIA (inland refineries)—

36-40	.05875	.0625

CALIFORNIA—

Los Angeles:

30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.85
10-16 (cargo lots)	.75	.85
12-17 (tank cars)	.65	.75
10-17 (high sulfur)	.55	.65
San Joaquin Valley:		
10-18 (tank cars)	.70	.85
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel		.035
43-47 diesel		.035
48-52 diesel	.03625	.0375
53-57 diesel	.0375	.03875
58-and-above diesel		.03875
Diesel bunkers		1.45
Bunker C (bulk cargoes)	.85	.90
Bunker C (bunkers)		.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.050
28-30 diesel (lighterage 6¼c per bbl.)		2.15
28-30 diesel (tank cars)		.05
Bunker C (to ocean-going ships in N. Y. Harbor $1.35		1.45
Industrial fuel (tank cars)		.044

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.26
150-160 D, 0-10		.22
150-160 D, 10-25		.215
100-110 D, 0-10		.215
100-110 D, 10-25		.21
Steam refined:		
600 dark green (untreated)		.135

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):

10 pour point		.295
15 pour point		.285
25 pour point	.25	.28
Steam refined:		
600	.14	.16
650	.145	.165
600 flash	.15	.17
630 flash	.16	.175

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.135
180-3		.14
200-3		.14
250-3		.155
280-3		.165
280-4		.16
300-3		.175
350-3½		.18
400-3½		.19
500-3½		.195
600-3½		.20
100-2½ paraffin oil 10-25		.0775
10-25 pour point:		
200-3		.135
250-3		.15
280-3		.16
280-4		.15

CALIFORNIA (moving to dom. mkt.)—

Pale oils:		
200-2½-3	.07	.0775
300-2½-3	.07	.0775
400-3-4	.0725	.08
450-3-4	.0725	.08
550-3-4	.0875	.1075
600-3-4	.0875	.11
Red oils:		
200-4-5	.07	.0775
300-5-6	.0725	.08
350-5-6	.09	.11
400-5-6	.09	.11
450-5-6	.09	.1125
500-5-6	.0925	.1125
600-5-6½	.0925	.1125
700-6½ plus	.0925	.1125
750-6½ plus	.0925	.1125
900-6½ plus	.0925	.1125

GULF COAST—

Pale oils:		
100-3	.0625	0.650
200-3	.0850	.0875
300-3	.09	.0925
500-3½	.0975	.10
750-3½	.10	.1025
1,200-3½	.1025	.10375
2,000-4	.1050	.1075
3,000-4	.1225	.1250

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.385
10 pour point		.375
15 pour point		.365
25 pour point	.31	.35
200 vis., at 70° F., 3 color:		
Zero pour point		.40
10 pour point		.395
15 pour point		.385
25 pour point	.33	.37

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.0525	.055

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.05375	.055
124-126 (A.m.p.) w.c. scale	.05375	.055

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax	.0560	.0640
128-130 (A.m.p.) wax	.0560	.0660
130-132 (A.m.p.) wax		.0585
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.	.05	.0525
124-126 (A.m.p.) y.s.	.05	.0525
Petrolatum in barrels, carload lots:		
Dark green		.02875
Amber	.02875	.03125
Extra amber	.03125	.03375
Lily white	.04875	.05375
Snow white	.05625	.05750
Cream	.04125	.05250

Export Prices

GASOLINE

GULF COAST—

60-62 400	.05125	.065
61-63 390	.05625	.0625
64-66 375	.05625	.0625

LOS ANGELES—

U. S. Motor grades:

Above 69 octane	.06	.0625
65-69 octane	.0575	.06
60-65 octane	.0525	.055

KEROSENE

GULF COAST—

41-43 water white	.035	.0375

LOS ANGELES—

41-43 water white	.05	.0525

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.b. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered		.23
630 S.R. unfiltered		.235
600 flash, S.R.		.24
650 flash, S.R.		.25
Bright stock:		
Light, 25 pour point	.34	.35

NEUTRAL OIL

200-3 color	.43	.50
150-3 color	.41	.46

PARAFFIN WAX

NEW YORK (prices per bbl.)—

123-125 A.m.p.	.0560	.0625
125-127 A.m.p.	.0560	.0625
128-130 A.m.p.	.0585	.0650
133-135 A.m.p.	.0615	.0700
135-137 A.m.p.	.0640	.0700
Crude scale:		
124-126 w.s.	.055	.0575
124-126 y.s.	.055	.0575

MARKET RECORD OF ACTIVE OIL STOCKS . . .

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1941 High	1941 Low	Week ended Sept. 6 High	Week ended Sept. 6 Low	Week ended Sept. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1940	Com. sh. earn. 1940	Com. sh. earn. 1939	1940 High	1940 Low	1939 High	1939 Low
63½	44	58	56½	56½	Amerada Corp.	788,675	N.P.	50cQ	7-31-41	$2.00	$2.25	$1.56	58½	38½	74½	50
24¼	19½	22¼	21⅝	22¼	Atlantic Refining	2,663,999	$25	25cQ	9-15-41	1.00	2.11	1.66	27⅛	18¼	24⅝	18⅛
10½	7	10¼	9¾	9⅞	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.50	—.48	1.39	16⅝	8½	21	10¼
10½	7⅝	10⅜	10	10	Barnsdall Oil Co.	2,558,779	$5	15c	9-8-41	.60	.97	.76	13⅜	7⅛	19½	11⅛
6½	5¼	6	5¾	6	Consolidated Oil Corp.	13,751,726	N.P.	12½cQ	8-15-41	.72½	.28	.55	8⅛	5½	9⅞	6½
26¾	17⅝	24½	23⅜	23⅜	Continental Oil of Delaware	4,682,572	$5	25cQ	9-29-41	1.00	.92	1.35	25	16⅛	31½	19⅞
5	3½	4⅜	4¼	4¼	Houston Oil	1,098,618	$25	....	10-17-30	....	.30	.43	6⅞	3⅜	9⅜	4⅛
13⅜	9⅝	13⅛	12¼	13⅛	Lion Oil Refining	435,815	N.P.	25cQ	7-15-41	1.00	1.05	1.50	14⅜	9	18⅛	10
17⅞	13	16⅝	16⅜	16½	Mid-Continent Petroleum	1,857,912	$10	40c	6-21-41	.80	1.60	1.42	17⅜	11½	18	11⅛
14⅜	9⅜	13¾	13¼	13⅜	Mission Corporation	1,378,645	$10	25c	12-20-40	.25	1.01	.87	11¾	7⅛	14⅞	8¾
7⅞	4¼	7¼	6⅞	7	National Supply	1,155,517	$10	....	12-22-37	....	—.49	—.87	9¾	4⅝	15½	5⅝
10	6¾	9	8⅝	8⅝	Ohio Oil Co.	6,563,377	N.P.	25c	6-14-41	....	1.02	—.10	8¾	5⅜	10½	6
9⅝	5½	8	7¾	7¾	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	....	—.21	.81	8⅞	5½	11⅞	7
10	7¼	..	..	..	Pan American Pet. Trans.	4,702,945	$5	25c	12-21-40	.25	1.20	1.10	10½	6¾	8⅜	5
46	35¾	45¼	44⅞	45¼	Phillips Petroleum	4,449,052	N.P.	50cQ	8-30-41	2.00	2.60	2.21	41¾	27⅛	46½	31¼
17	14¼	15⅞	15½	15⅞	Plymouth Oil Co.	1,038,633	$5	30c	6-30-41	‡1.30	1.38	2.38	22⅜	15	24	17⅛
10¾	7	9½	9⅝	9½	Pure Oil Co.	3,982,031	N.P.	25c	12-20-40	.25	1.21	1.11	11½	6¾	11⅜	6⅛
12⅛	7¼	11⅛	10⅜	11	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-40	.50	.95	.65	9¼	5⅞	10¼	6⅝
17	12½	14⅝	14⅝	14⅝	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-41	1.00	1.05	1.40	20	11	24⅜	15⅛
15¾	10⅛	14¼	14	14¼	Shell Union Oil	13,070,625	N.P.	40c	7-21-41	.75	1.05	.77	13⅛	7⅝	17¼	9⅞
33	18⅞	32½	31⅛	31⅛	Skelly Oil	995,349	$15	50c	7-30-41	1.25	3.28	1.99	23¼	12¼	29½	15½
10¾	8¼	9⅜	9	9⅛	Socony-Vacuum	31,206,071	$15	25cSA	9-15-41	.50	1.17	1.10	12½	7⅛	15⅛	10¼
24⅝	17⅞	23½	22¾	22⅞	Standard Oil of California	13,003,953	N.P.	35c†	9-15-41	1.00	1.73	1.38	26⅛	16¼	33⅝	24¼
34⅛	25½	32⅞	32⅛	32⅛	Standard Oil (Indiana)	15,272,020	$25	50c†	9-15-41	1.50	2.20	2.23	29	20⅜	30	33⅜
45⅝	33	43⅜	42⅛	42⅝	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-16-41	1.75	4.54	3.26	46½	29⅞	53½	38
48½	34¼	41½	40¾	41⅛	Standard Oil of Ohio	753,740	$25	75c†	9-15-41	2.00	7.44	6.64	41¾	26¼	32¾	17
60½	50	57⅝	57	57⅝	Sun Oil	2,434,863	N.P.	25cQ	9-15-41	*1.00	3.03	2.74	65⅞	46¾	66	45¾
2⅜	1⅜	2	1⅞	1⅞	Superior Oil Corp.	1,388,979	$1	10c	12-28-40	.10	.11	.04	2½	1⅛	3⅝	1¾
44¾	34½	43	41¼	41½	Texas Corp.	10,876,139	$25	50cQ	10-1-41	2.00	2.90	3.02	47⅝	33	50⅝	32½
4⅛	2⅞	3½	3½	3½	Texas Gulf Producing Co.	888,147	N.P.	10c	6-14-41	.20	.63	.69	4¼	2½	5¾	3¼
7¾	5¼	7	6½	6¾	Texas Pacific Coal & Oil	888,236	$10	10c	9-2-41	.40	.54	1.00	8⅝	5⅜	11⅜	7
11¼	9⅜	10½	10	10	Tide Water Associated	6,371,827	$10	25c†	9-2-41	.70	1.14	1.05	12	8⅜	14¼	9½
15¾	12¾	15½	15⅝	15½	Union Oil Co. of California	4,666,270	$25	25c	8-9-41	1.00	.99	1.25	17½	12	19⅜	15⅛
31	25⅝	29⅞	29	29	Union Tank Car Co.	1,177,381	N.P.	50c	9-2-41	1.75	2.22	2.07	29⅞	22¾	24¼	20⅛
2⅜	1⅝	2	2	2	Wilcox Oil & Gas	470.768	$5	10c	2-15-40	....	.35	.77	3⅝	1¾	4¼	2⅜

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. —Deficit.

New York Curb Exchange

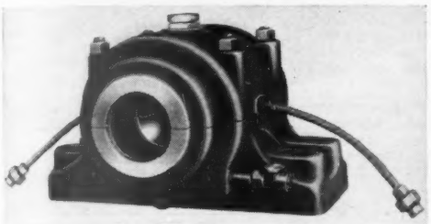
1941 High	1941 Low	Week ended Sept. 6 High	Week ended Sept. 6 Low	Week ended Sept. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1940	Com. sh. earn. 1940	Com. sh. earn. 1939	1940 High	1940 Low	1939 High	1939 Low
¾	¼	7/16	⅜	7/16	American Maracaibo Co.	1,778,415	$1	....	.....	....	—$0.04	—$0.05	⅜	⅛	1¼	¼
7⅝	5⅛	7½	7	7⅜	American Republics Corp.	1,308,049	$10	10c	7-10-41	....	.78	.14	10¾	4½	11¾	5½
1¾	1	1⅝	1½	1⅝	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.88	—.95	3¼	1⅜	7¼	2½
46	36½	45½	44½	45½	Buckeye Pipe Line Co.	200,000	$50	$1	9-15-41	$4.00	5.09	3.13	43	28	34⅜	26½
110¼	87	97½	97½	97½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-29-41	6.00	6.33	7.87	117	95	130	108⅝
6⅝	3⅝	4⅞	4¾	4¾	Cities Service (new)	3,703,978	$10	....	6-1-32	....	1.72	.68	6¾	4	9¼	4¼
1⅝	⅝	1⅝	1½	1½	Cosden Petroleum	465,804	$1	....	.....	....	—.34	.15	2⅛	⅝	2¼	½
19¾	12½	18	17¾	17¾	Creole Petroleum	6,974,356	$5	50cSA†	6-16-41	1.00	.98	1.38	24¼	11⅝	28	16¾
9	3¾	8	7¾	7¾	Darby Petroleum	351,390	$5	25c	7-15-41	....	1.12	.03	4⅜	2⅞	7⅛	3⅝
2¼	1	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	....	.12	—.37	2	¾	2⅝	1½
28¾	20⅝	21¼	20⅝	20⅝	Eureka Pipe Line	50,000	$50	50c	8-1-41	2.25	—.49	.63	31	20¼	23	15⅛
39	29	37½	35¾	35¾	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-41	1.25	2.44	1.69	39⅞	25⅛	45⅛	29¼
64⅝	52¾	62¾	61¼	61¼	Humble Oil & Refining	8,987,840	N.P.	62½c	10-1-41	2.00	3.13	3.33	68	47⅛	71	42½
7	5¾	6⅞	6¾	6¾	Imperial Oil of Canada	26,965,078	N.P.	25c	6-2-41	.62½	.65	.71	12⅝	5⅝	17	11⅝
5	2¾	4¼	4¼	4¼	Indiana Pipe Line	300,000	$7.50	20c	11-15-40	*2.80	.09	.33	7¾	3	7⅛	5½
11	8⅞	9⅞	9½	9¾	International Petroleum	14,324,088	N.P.	50c	6-2-41	1.25	.94	1.19	10¾	8¼	27½	17
2⅝	1¾	2	2	2	Kirby Petroleum Co.	500,000	$1	10c	3-15-41	..	.16	.06	2¾	1⅝	3¾	2⅛
10⅛	8⅜	8¾	8⅜	8¾	Lone Star Gas	5,518,347	N.P.	20c	8-22-41	.70	1.17	.98	10¾	7⅝	10½	7⅛
5⅝	4⅛	5	4⅞	4⅞	Louisiana Land & Exp.	2,966,762	$1	10c	9-15-41	.35	.29	.22	6¼	3⅜	7⅝	4
10	9½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-41	1.00	1.02	1.52	17	9¼	17	14½
4⅛	2½	4	4	4	Middle States Petroleum "A"	291,970	$1	37c	1-31-41	.63	.31	.37	4⅛	2⅜	5⅜	2¾
8	7	7⅞	7⅞	7⅞	Midwest Oil Co.	998,474	$10	45c	6-16-41	.90	.88	.99	8½	5½	8⅝	6⅝
6⅛	5⅛	5⅝	5⅝	5⅝	Mountain Producers	1,593,584	$10	30cSA	6-16-41	.60	.58	.70	6¼	4⅞	6	4⅞
12⅝	10⅛	11½	11⅜	11⅜	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-41	1.00	1.12	.95	13⅛	10	14	11¼
12⅞	10¼	11½	11½	11½	National Transit	509,000	$12.50	50c	6-16-41	1.00	1.08	.91	12½	8⅜	9½	7¼
2¼	1	1⅞	1⅞	1⅞	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.03	.02	1¼	⅝	1⅜	1
8¼	6⅝	..	..	..	New York Transit	100,000	$5	30c	10-15-41	.60	.91	.88	7⅝	5¼	6	4
9¾	7¾	..	..	..	Northern Pipe Line	120,000	$10	50c	6-2-41	.80	.70	.31	9⅞	6	7	4½
4⅜	2⅝	4⅜	4⅛	4¼	Pantepec Oil	2,856,872	$1	....	.....	....	.02	....	5½	2½	7⅝	4
2⅞	1	2⅛	2⅛	2⅛	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.04	.70	3¼	1	5	1¼
2⅝	2⅛	2⅝	2½	2⅝	Ryan Consolidated	298,931	N.P.	10c	12-28-40	..	.43	.16	3	1¼	3	1⅞
8	6½	..	..	..	Southern Pipe Line	100,000	$10	25c	9-2-41	.50	.81	.25	11¾	4¾	4⅞	3½
43½	36⅛	40	38½	39¼	South Penn Oil	1,000,000	$25	37½c	6-27-41	2.50	2.10	2.84	44	28	40½	26¾
30½	23	26	26	26	Southwest Penna. Pipe Lines	35,000	$50	50c	7-1-41	6.50	3.22	2.06	35	21	23	18
20⅜	17⅞	19⅜	18⅞	18⅞	Standard Oil of Kentucky	2,604,790	$10	25c	9-15-41	1.30	1.47	1.53	20⅞	16½	20⅛	17¼
2¼	1⅜	2¼	2⅛	2⅛	Sunray Oil	1,975,876	$1	5c	12-20-40	.10	.23	.25	2	1⅜	2¾	1⅜
3¼	2⅝	3	3	3	Texon Oil & Land	936,024	$2	10c	9-26-41	.40	.45	.49	3⅛	2	4	2⅝
4⅝	2¼	4¼	4⅛	4¼	Transwestern Oil Co.	750,000	$10	....	.....	....	—.59	—1.42	3⅜	2	6	2½
11/16	½	⅝	½	9/16	United Gas Corp.	7.818.959	$1	....	.....	....	—.49	—.55	2⅛	¾	3⅜	1½

*Includes $2.50 capital distribution. †Includes extras. —Deficit.

EQUIPMENT PROGRESS...

Dodge Announces New Line Of Sleevoil Pillow Blocks

The new Sleevoil precision pillow blocks of Dodge Manufacturing Corp., Mishawaka, Ind., in plain and water-cooled types in shaft sizes from 1 7/16 to 8 in., inclusive, were designed for a wide range of industrial applications where a high-grade babbitted bearing is required. Such applications would include fans and blowers, marine propeller shafts, etc.



Ample lubrication is provided by the use of "T" section brass oiling rings. Single rings are furnished in sizes up to 3 7/16 in., inclusive, and two rings are used in larger sizes. A brass oil gage is provided which can be placed on either side of the bearing and by the use of additional ½-in. pipe can be extended to any distance from the bearing. Bases have drain holes in each end and caps are provided with inspection hole and cover.

These bearings are fully self-aligning and can be furnished in either expansion or nonexpansion types. Expansion pillow blocks have no provision for thrust load but the nonexpansion bearings are supplied with two internal split thrust collars. This type should be used as an anchor bearing and other bearings on the same shaft should be of the expansion type.

Effective sealing against admission of dirt or escape of lubricant is provided by special seals held onto the shaft by garter springs so that they revolve with the shaft and give the effect of piston-ring seals. A drain is provided at the bottom of the seal grooves to carry oil back to the oil chamber. The bases, ends, and spherical seats of Sleevoil pillow blocks are finished and dowel pin holes are provided.

Sleevoil water-cooled pillow blocks are identical in design and construction with the plain type except for the water-cooled feature which makes them particularly adaptable for service where elevated temperatures, heavy loads, or rubbing speeds are encountered. Sizes up to and including 3 15/16-in. are water cooled in the lower liner only and have one flexible inlet and one outlet connection. Sizes 4 7/16-in. and larger are water cooled in both upper and lower liners and have two flexible inlet and two outlet connections.

TRADE LITERATURE

DODGE MANUFACTURING CO., Mishawaka, Ind.—Bulletin A-401, illustrating and describing a new line of Sleevoil precision babbitted pillow blocks for industrial service, with engineering data.

CRANE CO., 836 South Michigan Ave., Chicago.—Folders illustrating how users of piping material can obtain maximum usage from their equipment. This series of folders contains practical suggestions on how to eliminate or reduce interruption to service, how to train new men in the handling of piping equipment, how to get longer service under peak-load operations, and how to make the best selection of the valves and fittings for every service need. Copies, as they are published, may be had from any Crane branch.

UNION ASBESTOS & RUBBER CO., 1821 South Fifty-fourth Avenue, Cicero, Ill.—Form 48-965, describing and illustrating applications of Unibestos insulating material for high-temperature service. Practical advantages of this high strength, high thermal efficiency insulation are pointed out, and in a table are given all data needed for figuring the average insulating job.

ALLIS-CHALMERS MANUFACTURING CO., Milwaukee, Wis.—8-page book (B-6059) which concisely describes and illustrates the wide range of pumps built by this company. Included in the book are pumps for handling capacities from 10 to 200,000 g.p.m. and for heads ranging from 10 to 4,200 ft. Also single and double-suction single-stage pumps, double-suction multistage pumps, open runner paper stock pumps, and axial flow pumps.

INTERNATIONAL NICKEL CO., INC., 67 Wall Street, New York.—"Individualized Inco Nickel Alloys," a 12-page catalog giving individual characteristics, mechanical properties and application information on the Inco Nickel Alloys—Monel, "K" Monel, "KR" Monel, "S" Monel, "R" Monel, Nickel, "Z" Nickel, and Inconel. Tables of physical constants and available forms are included.

HOBART BROTHERS CO., Box EW-79, Troy, Ohio.—Revised, 20-page handbook of welding electrodes and accessories.

BROWN INSTRUMENT CO., Wayne and Roberts Avenues, Philadelphia, Pa.—Bulletin 96-3, describing "Brown Protectoglo Combustion Safeguard Systems," for providing safe reliable methods of protection against failure of oil, powdered coal, and gas flames. Advantages of the Protectoglo systems, operating principles and models available for specific requirements are fully described in the bulletin. Large, clear photographs show the exterior and interior views of the instruments. The numerous schematic diagrams included illustrate how the systems may be installed for application on gas, oil, and powdered coal-fired boilers.

Crane Co. Elects J. L. Holloway Vice President in Charge of Finance

J. L. Holloway was elected a vice president of Crane Co., in charge of finance, at a meeting of the board of directors held on August 25.

Mr. Holloway joined the Crane organization in 1935, was elected secretary of the company in 1937 and, in addition, was appointed assistant to the president in 1940, which positions he held until his election as vice president. Mr. Holloway interrupted his studies in engineering at the University of Manitoba to go to France with the Canadian forces during the last war; then entered the accounting field, becoming a chartered and certified public accountant, in which capacity he had an extensive experience covering practically every phase of operation in a great variety of corporations.

At the same meeting of the board, W. H. Winslow, Jr., was elected secretary. He joined the Crane organization in 1939 to handle tax and legal matters for the company, and has been assistant secretary since early in 1940. He was with the American Army in France during the last war, following which he resumed the study of law, was admitted to the bar, and practiced law as a member of well-known law firms.

Rockwell Appointed National Councillor

Announcement has just been made that Col. W. F. Rockwell, president of the Pittsburgh Equitable Meter Co. and the Merco Nordstrom Valve Co., Pittsburgh, Pa., has been appointed a national councillor of the Chamber of Commerce of the United States to represent the Association of Gas Appliance and Equipment Manufacturers. Through his close contact with the gas industry, Colonel Rockwell is in a position to give valuable information to the council on its pertinent problems.

A. K. Hegeman Represents Clark Brothers on West Coast

Clark Bros. Co., Inc., of Olean, N. Y., manufacturer of gas and diesel engines and engine-driven compressors, has announced a change in address of its Pacific Coast office and warehouse and the appointment of A. K. Hegeman as West Coast manager.

A. K. HEGEMAN

Mr. Hegeman is a graduate of the University of California college of mining engineering. Following his graduation, and service in the World War, he engaged in mining engineering work in Utah until 1923, when he became sales manager for the Cochise Rock Drill Co. The following year he entered the employ of the Smith-Booth-Usher Co., of Los Angeles, where he has since been engaged in oil-field sales work. The Smith-Booth-Usher Co. has been Clark's Pacific Coast representative for the past 10 years, and Mr. Hegeman has had wide experience in selling, installing, and servicing Clark engines and compressor installations.

Clark's new sales office and warehouse are located at the plant of the Pacific Pump Works, Bicket Street and Slauson Avenue, Huntington Park, Calif. A service department is maintained, carrying a complete stock of repair parts, with Art Rowe in charge.

Emsco Asbestos Adopts New Name of Fibre & Metal Products

Emsco Asbestos Co., Downey, Calif., has announced that at a meeting of the directors and stockholders it was unanimously agreed to change the company's name to Fibre & Metal Products, Inc. This was due to its manufacture of diversified fiber and metal products, so that continued use of the old name was inappropriate. The change in no way affected the corporate structure of the company, and officers, members of the board, and personnel remain the same.

American Recording Expands Facilities

The American Recording Chart Co., manufacturer of "Arcco" recording charts and for several years distributor of Anubis instruments, recently acquired from the late Col. George S. Binckley the entire business of the Anubis Laboratories of George Sydney Binckley. The acquisition of the Anubis Laboratories necessitated the enlargement of the present building to include new laboratory and instrument shop. Special testing and calibrating devices are used in the laboratory for testing and adjusting each Anubis instrument before shipment. Additional machinery has been installed to handle the increasing demand for these precision instruments. All manufacture, assembly, and calibration is done by skilled mechanics.

Under the direction of J. W. Dunn, manager of the American Recording Chart Co., all details of the new buildings have been planned to fit the two types of manufacturing work engaged in by his company, and they are now in a most favorable position to handle the growing demand for Arcco-Anubis products. These include "Arcco" recording charts and ink, "Beta" pens, Anubis portable gas balances, recording gas gravitometers, laboratory gas balances, meters and indicators, recording and indicating liquid gravitometers, and viscosimeters. American Recording Chart Co. is also the exclusive distributor for the well-known Macnick chart clock.

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FOR LEASE: The following proven oil producing acreage in Woodson County, Kansas: Entire Section 14, Township 24, Range 13 and the East half of Section 23, Township 24, Range 13. Address EARL LAKE, Perth Amboy, N. J.

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WANTED: Illinois large block acreage for well. Louis Lahm, 2931 Missouri, St. Louis, Mo. Also sell lease near drilling, $1.50 acre.

CRANE COUNTY fee land under Magnolia, Stanolind, leases, Sec. 18, B28, Jefferson Smith, 215 Littlefield Bldg., Austin, Tex.

ROYALTY INVESTMENT — Buy land under development, 20 acres $135.00 or 40 acres $250.00. Leased, returns ⅛ royalty. Must sell. Title warranted. Box A-639, The Oil and Gas Journal, Tulsa, Okla.

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SUPERVISOR, Lubricating Oil Department, Canadian Refinery. Young man with technical education and practical experience in modern Lubricating Oil Refinery. State in first letter age, marital status, education, experience, Nationality, Religion, present occupation and salary, and references. Address Box A-654, The Oil and Gas Journal, Tulsa, Okla.

WANTED
Refinery Safety Engineer.
Position includes responsibility for pressure still inspections, general safety work, and fire protection equipment. Some operating or engineering experience preferred. Reply Box A-653, The Oil and Gas Journal, Tulsa, Okla.

WANTED

Experienced refinery equipment inspectors technical training and supervisory experience necessary. Must be familiar with pressure vessels, pumps, pipes, etc., capable of measuring, calipering, drilling test holes, calculating stresses and strains under varying conditions of pressures and temperatures, interpreting results of inspections and writing clear reports. Must be U. S. citizen. Give complete details of experience in first letter. Box A-652, The Oil and Gas Journal, Tulsa, Okla.

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LABORATORY foreman over draft age, years refinery experience, knock engine, etc. Also doctor sweetening and mercaptan removal. Box A-634, The Oil and Gas Journal, Tulsa, Okla.

REFINERY manager, superintendent, and engineer. Experienced in construction, operation and maintenance. Aviation and high octane gasolines. Age 41. Box A-632, The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM ENGINEER, age 40, married, 5 years experience in responsible position with production service company desires change. Progressive independent preferred. Box A-643, The Oil and Gas Journal, Tulsa, Okla.

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INSTRUMENT man, four years' experience, three years in Aruba refinery, familiar all makes and applications of instruments, desires change of position. Address Box A-651, The Oil and Gas Journal, Tulsa, Okla.

NATURAL Gas Engineer — Technically trained—12 years' experience in solving transmission and distribution problems; estimating reserves; calculating peak days, load factors const. costs, anticipated earnings, etc. Authored articles for trade journals, gas associations, and taught courses in gas engineering. Desire to make change. Age 33. Address Box A-650, The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM ENGINEER: Young man, college graduate, P.P.E. degree, draft classification 3-A. Three years' experience including service engineer, production engineer, and general field work. Desires position with drilling and production company as geologist, engineer, or scout. Box A-631, The Oil and Gas Journal, Tulsa, Okla.

MARRIED MAN, experienced in office and field work, land dept., major oil company, wants position immediately with reliable company. P. O. Box 372, Jasper, Tex.

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Geophysical Service

LOCATE mineral domes by Geophysical methods. Be sure of production on over burdened structures. Peter W. Dericks, Columbus, Neb.

ILLINOIS Oil Possibilities, Twelve years' experimenting with Doodle-bug work, has led us into a scientific method, and we expect to produce oil above 1,000 feet in Edgar, Coles and Cumberland Counties, Illinois. We need capital, active or silent partner. Can demonstrate on the ground to your satisfaction. S. J. Burkitt, Moweaqua, Illinois.

Equipment Wanted

WANTED 100,000 ft. of good used 4, 6, 8, 10 and 12 inch pipe, plain or coupled. Write or wire Daniel A. Moritz Co., McKeesport, Pa.

WANTED—Any quantity of 10" 8 V. Thd. casing or line pipe couplings. Zanesville Tool & Supply Company, Zanesville, Ohio.

WANTED — Waukesha, Climax, Buda, Le Roi, Fairbanks-Morse, Bessemer, Clark and Miller Gas or Oil Engines. Box A-630, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Clark Engine parts or complete engine—80, direct driven, cylinder sizes 14 x 20 x 7¼ x 20, single action. State price in first letter. R. O. Brown, Beaumont, Kansas.

WANTED—Bessemer 80 type 8 or 10, direct driven, with about a 14 or 16 inch cylinders preferable. Address Box A-655, The Oil and Gas Journal, Tulsa, Okla.

BOILER used by southeastern Nebraska municipality. 357 H.P. Babcock & Wilcox Stirling water tube. 160 lbs. working pressure. Excellent condition. $1,750, includes fittings and brick, no stack. Box A-656, The Oil and Gas Journal, Tulsa, Okla.

For Sale—Equipment

FOR SALE at Oklahoma City: 1 Large Layne Vertical Centrifugal Pump, coupled type 10" G.L.C. with 89-M.A. pump head. Complete. Cities Service Oil Co., Bartlesville, Okla.

FOR SALE—1 PA 100 International Motor almost new. 1 12-in. 6-ply 60 ft. endless belt. Box 278, Salem, Ill.

FOR SALE: 30 Drilling Stems, sizes 5", 4½", and 3½". 20 bailers. Sizes 7", 5½", and 4". Also sectional bailers and large assortment of fishing tools, bits, and generators, etc. Located at Oklahoma City. Priced to sell. Lucey Products Corp., Tulsa, Oklahoma.

FOR SALE: Big pipe for pipe line, light weight, 5 miles, subject to prior sale. Box 574, Tulsa, Okla.

FOR SALE at Oklahoma City: A quantity of repaired and unrepaired duplex piston steam pumps, 6 x 4 x 6 and 10 x 3½ or 4½ x 10. Cities Service Oil Co., Bartlesville, Okla.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30
4 Lines	1.40	2.40	3.40	4.40
5 Lines	1.75	3.00	4.25	5.50
6 Lines	2.10	3.60	5.10	6.60
7 Lines	$2.45	$4.20	$5.95	$7.70
8 Lines	2.80	4.80	6.80	8.80
9 Lines	3.15	5.40	7.65	9.90
10 Lines	3.50	6.00	8.50	11.00

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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Tulsa, Oklahoma